For Official use only

MINISTRY OF IRRIGATION AND POWER

REPORT
OF
THE KRISHNA GODAVARI COMMISSION

Annexure VIII

Particulars of Irrigation and Hydro-electric schemes, in operation as on 31st March, 1951

KRISHNA RIVER SYSTEM

July 1962

Table of Contents

Foreword ... ...(i)

Statement showing installed power, average annual irrigation and average annual diversion ... ...(ii)

Section. 1. Introduction 1

Section. 2. General form for recording particulars of major and medium projects ...

Section. 3. Particulars of major and medium projects ... ...

Table I Abstract of major and medium projects 133

Table II Particulars of minor schemes 134

Table III Particulars of small tanks and diversions 144

Table IV Abstract of minor schemes and small tanks and diversions 146

Table V Ayacut of and area irrigated by minor schemes and small tanks and diversions in Andhra Pradesh 148

Table VI Crop pattern and duty, district-wise 149

FOREWORD

The data presented in this Annexure relate to irrigation and hydro-electric schemes on the Krishna river system, as on 31st March, 1951, and are based on the information obtained from the State Governments of Andhra Pradesh, Maharashtra and Mysore supplemented, here and there, by information collected from project reports, administration and other reports and official correspondence between the State Governments and the Planning Commission or the Ministry of Irrigation and Power.

On some of the schemes which were in operation, as on 31st March 1951, there have been subsequent changes and improvements, generally of a minor character. For convenience of presentation, these developments have also been described in this Annexure; so are such proposals as the State Governments have now formulated with regard to improvements on these schemes other than those which are covered by a new project described elsewhere in the relevant Annexure.

Statement showing instal'ed power average annual irrigation and average annual diversion

Name of State	*Number of schemes*	*Power installed kW.*	*Average annual C.C.A. or Ayacut (acres)*		*Average annual irrigation (acres)*		*Average annual diversion (T.M.C.)*	
			1941-42 to 1950-51	*1951-52 to 1960-61*	*1941-42 to 1950-51*	*1951-52 to 1960-61*	*1941-42 to 1950-51*	*1951-52 to 1960-61*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
ANDHRA PRADESH			*Ayacut*					
Major and medium schemes	7	—	1,203,100	1,317,000	1,263,000	1,402,200	231.1	261.1
Minor schemes	106	—	105,318	105,318	347,345	82,363	59.0	92.4
Small tanks and diversions	12,617	—	618,579	618,579		464,269		
Total	**12,730**	—	**1,926,997**	**2,010,897**	**1,610,315**	**1,948,832**	**290.1**	**353.5**
MAHARASHTRA			*C.C.A.*					
Major and medium schemes	11	278,000	755,500	763,400	203,300	198,100	79.9	84.5
Minor schemes	19	—	64,623	64,623	14,961	14,886	1.1	1.1
Small tanks and diversions	16	—	8,019	8,019	3,895	3,641		
Total	**46**	**278,000**	**828,142**	**836,042**	**222,156**	**216,627**	**81.0**	**85.6**
MYSORE			*Ayacut*					
Major and medium schemes	5	—	81,900	65,300	56,300	56,400	11.3	10.9
Minor schemes	86	—	103,686	103,686	70,000	83,575	67.0	69.4
Small tanks and diversions	14,019	—	343,576	343,576	343,576	343,576		
Total	**14,110**	—	**529,162**	**512,562**	**469,876**	**483,551**	**78.3**	**80.3**
Total of major and medium schemes	**23**	**278,000**	**2,040,500**	**2,145,700**	**1,522,600**	**1,656,700**	**322.3**	**356.5**
Total of minor schemes, small tanks and diversions	**26,863**	—	**1,243,801**	**1,243,801**	**779,777**	**992,310**	**127.1**	**162.9**
Grand Total	**26,886**	**278,000**	**3,284,301**	**3,389,501**	**2,302,377**	**2,649,010**	**449.4**	**519.4**

INTRODUCTION

1.1 After a preliminary study of the nature and extent of irrigation developments, existing and proposed, in the Krishna and Godavari basins and after general discussions with the representatives of the State Governments concerned, the Commission decided to classify all schemes and projects into the following four groups:

(i) Major schemes to include all power projects and such other schemes as would each irrigate 50,000 acres or more annually;

(ii) Medium schemes-each intended to irrigate less than 50,000 acres annually, but having an Ayacut or C.C.A. of not less than 5,000 acres;

(iii) Minor schemes-each having an Ayacut or C.C.A. of less than 5,000 acres, but not less than 500 acres; and

(iv) Small tanks and diversions—each having an Ayacut or C.C.A. of less than 500 acres.

1.2 A form was drawn to show in detail such particulars of schemes and projects as were relevant to the Commisson's work and the State Governments were requested to furnish the requisite data for each major and medium scheme in operation, as on 31st March, 1951. This form with explanatory notes, is shown in Section 2. It was, however, found that the information sought by the Commission was not readily available with the State Governments; each State, therefore, set out to collect as much information as could be compiled in the time available.

Particulars of each major and medium project, as obtained from the State Governments, are given in Section 3. These were shown in draft form first to the representatives of the State Governments concerned, for verification. After appropriate modifications had been made, the revised drafts were discussed in a joint meeting at which the Commission had the benefit of comments made and views expressed by the representatives of other States. This led to some further changes, which have all been incorporated in Section 3. Some gaps in the data required still remained. These have been filled by the Commission; the assumed figures are shown in brackets.

1.3 The significance of the index numbers, as given to each project in Section 3, is the same as explained in the Commisson's Report.

1.4 Important particulars of all major and medium schemes arranged State-wise are given in Table 1, including the average annual irrigation and the average annual diversion by each scheme during each of the decades 1941-42 to 1950-51 and 1951-52 to 1960-61 and also the installed power.

1.5 Since each minor scheme utilises but a small quantity of water, since the number of such schemes is relatively large and since most of the particulars specified for the major and medium projects were not available for the minor schemes, the Commission decided to request the State Governments to furnish only a few important facts regarding each minor scheme. These have been presented in Table II to the extent these could be made available by the State Governments.

1.6 As regards small tanks and diversions, their number runs into thousands and even the particulars called for the minor schemes were not available for individual small tanks and diversions. It was, therefore, decided to collect some particulars regarding these small tanks and diversions, not by individual works, but collectively for all the small tanks and diversions in each district. Even this information was not wholly available. The information obtained is shown in Table III.

1.7 An abstract of all information available regarding minor schemes and small tanks and diversions is shown in Table IV. This Table gives the number of total schemes of this kind, district-wise, the areas irrigated and the average annual diversions.

No records are available of the quantum of the river supplies diverted by minor schemes or by small tanks and diversions. In order to get some idea of this quantum, the information contained in Table VI was collected from each State Government and was utilised in working out the average annual diversions shown in Table IV.

1.8 The total number of schemes in each State, the total area irrigated and the total river supply diverted are shown in a Statement in the beginning of the Annexure.

Section 2

General form
for
recording particulars of Major and Medium projects
which came into operation
as on 31st March, 1951
with
explanatory notes

सत्यमेव जयते

Name of scheme or system

Index Number
indicating serial number,
catagory of project,
sub-basin and State or States

1. **Name of the State**

State or States benefitted by the scheme ; if the scheme was in a different State prior to reorganisation of States, also the name of that State.

2. **Scope of the scheme or system**

Irrigation, hydro-electric or multi-purpose ; if multi-purpose, all purposes are stated ;

Whether based on flow or flow-cum-storage ;

For irrigation schemes, acreage of C.C.A. or Ayacut is given ;

For hydro-electric schemes, installed power in k.W. is stated.

3. **Source of supply**

Name of channel with name of place where diversion works are located, tributary and river

Illustration : Sina at Sholapur/Bhima/**Krishna**

Upstream uses if any, existing and proposed :

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage ; dead storage ; carry-over ; annual reservoir losses ; filling period ; depletion period ; catchment area ; area submerged ; full reservoir level ; minimum pond level or dead storage level.

If no canal takes off from the reservoir or tank :

type, length and height of dam ; length and capacity of spillway ; and number and capacity of outlets.

(as during 1951-52 to 1960-61)

Changes, if any, in the information furnished above

(as now proposed)

Changes proposed, if any, other than those covered by a new project

5. **Description of the head-works**

(as during 1941-42 to 1950-51)

If a canal takes off above the dam :

type, length and height of dam, length and capacity of spillway ; number and capacity of outlets including particulars of head regulator of the canal

If the head works consist, of a weir, anicut or barrage :

length of weir, anicut or barrage with discharging capacity, particulars of under sluices and of head regulator of canal ; minimum pond level and catchment area upstream of head-works

(as during 1951-52 to 1960-61)

Changes, if any, in the information furnished above

(as now proposed)

Changes proposed, if any other then those covered by a new project

6. Description of canal (s)

(as during 1941-42 to 1950-51)

Name of canal (contour or ridge) ; whether taking off on right or left ; length of main canal (and of branches) ; one seasonal, two seasonal or perennial ; lined or unlined ; authorised capacity at head

(as during 1951-52 to 1960-61)

Changes, if any, in the information furnished above

(as now proposed)

Changes proposed, if any, other than those covered by a new project

7. Year from which the scheme is in operation

Major changes, if any, in capacity of canal or tank, after scheme was originally brought into operation, are also stated.

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

(i) in general seperate tables are prepared for each major canal ;

(ii) Ayacut figures are not given for schemes in Madhya Pradesh and Maharashtra

Item	*Names of districts*					*Total*

....*thousand acres*..

(as during 1941-42 to 1950-51)

G.C.A.
C.C.A.
Ayacut

(as during 1951-52 to 1960-61)

Changes, if any, in the information furnished above

(as now proposed)

Changes proposed, if any, other than those covered by a new project

9. Area irrigated annually and intensity of irrigation

(i) Where the area irrigated annually is more than 10,000 acres, yearly crop-wise figures for the period from 1941-42 to 1960-61 are given in *Annexure 1*

(ii) intensity of irrigation is worked out as percentage of the area irrigated in each crop season (*kharif, rabi, abi, tabi,* hot-weather, *etc.*) on total C.C.A. in case of Madhya Pradesh and Maharashtra and on total Ayacut in case of Andhra Pradesh, Mysore and Orissa.

(iii) All figures are correct to first place of decimal

Area irrigated annually			*Intensity of irrigation*			
Maximum	*Minimum*	*Average*	*Perennial*	*Kharif*		*Total*
..............*thousand acres*.....................			...............................*percentage*...................................			

(*as during 1941-42 to 1950-51*)

(*as during 1951-52 to 1960-61*)

(*as row proposed*)

10. **Normal rainfall and river supply diverted**

(i) If there is more than one cannal separate tables are prepared for each major canal;

(ii) figures in column 2 are as read from Isohyetel maps ;

(iii) figures in columns 3 and 4 are based on the sum-total of the rainfall figures for the month for all the stations in the commanded area divided by the number of stations;

(iv) figures in each of the columns 5, 6, 8 and 9 pertain to individual years during which the total annual diversion was maximum or minimum as the case may be;

(v) figures in columns 12, 13 and 14 represent

$$\frac{\text{average cusecs diverted during the month}}{\text{authorised capacity of the canal}}$$

(vi) figures in columns 2 to 4 are correct to first place of decimal and those in columns 5 to 14 to two places of decimal.

Note—The words 'No change' in column 11 indicate that the withdrawals proposed to be made would be the same as here to fore under similar river supply conditions, In other cases, where figures of withdrawals are given in this column, thus indicate a long term average—the annual withdrawals would vary above and below this figure depending on annual fluctuations in the river supply.

Month	*Rainfall*			*River supply diverted*							*Capacity factor*		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As now proposed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As now proposed*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*				
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
	.........*inches*......			......*thousand million cubic feet (T.M.C.)*......									
June													
July													
—													
—													
April													
May													
Total													

11. (a) **Depth of sub-soil water-table below ground level**

(b) **Nature and extent of annual fluctuation in the water-table**

(c) **Has there been any change in the sub-soil water-table since the introduction of irrigation ?**

Information is given only where data based on regular observations are available.

12. (a) **Characteristics of soil (s) in the commanded area**

Results of scientific soil survey, if carried out, are given, otherwise ; general classification specifying soil texture with depth of soil crust

(b) **Has there been any change in the soil characterstics since the introduction of irrigation ?**

Information is given only when scientific studies have been made.

13. (a) **Crop pattern**

(i) Where area irrigated annually is more than 10,000 acres, crop-wise figures for each year are given in *Annexure 1*

(ii) paddy, wheat, sugarcane and cotton are specified individually; any other crop which covers in more than 5 percent of the total cropped area is also specified, all other crops are grouped under 'others ;

(iii) Crop percentages are worked out on the 'total cropped area' as given in the last column and are correct to the first place of decimal.

Perennial			*Two seatonal*						
Percentage of principal crops		*Total area (T. acres)*	*Percentage of principal crops*		*Total area (T. acres)*	*Percentage of principal crops*		*Total area (T.acres)*	*Total cropped area (T. acres)*

(average for 1941-42 to 1950-51)

(average for 1951-52 to 1960-61)

(as now proposed)

(b) **Are there any rules for regulating crop pattern ?**

14. **Delta at canal head**

Over all delta represents

$$\frac{\text{the area irrigated annually vide item 9}}{\text{total annual river supply diverted vide item 10}}$$

Delta (feet)			
Perennial	*Kharif*	*Rabi*	*Overall*

(average for 1941-42 to 1951-52)

(average for 1951-52 to 1960-61)

(as now proposed)

15. (a) Number of tanks in operation in the irrigated area and area irrigated there from

It is specified whether area irrigated by tanks is included in or excluded from the C.C.A. or Ayacut of the Project

(b) Number of wells in operation in the irrigated area and area irrigated therefrom

It is specified whether the area irrigated by wells is included in or excluded from the C.C.A. or Ayacut of the project.

16. Quatum of river supplies available in relation to withdrawals, as of March, 1951

Whether river supply data available; the period of the year in which flow supplies are adequate to meet irrigation requirements; number of days during which flow supplies are in excess of irrigation requirements and quantum of excess; period during which irrigation requirements are met wholly or partly from storage and quantum so obtained.

POWER ASPECTS

17. River supplies diverted and operation head

Month	*As during 1941-42 to 1950-51*		*As during 1951-52 to 1960 61*		*As proposed*	
	Range of operation head (feet)	*Mean supply passing through turbines (cusecs)*	*Range of operation head (feet)*	*Mean supply passing through turbines (cusecs)*	*Range of operation head (feet)*	*Mean supply passing through turbines (cusecs)*
June						
July						
—						
—						
April						
May						
Total		T. M. C.		T. M. C.		T. M. C.

18. Disposal of tail-race water

Where information is not available month-wise, the disposal of tail-race water is indicated in general terms

Month	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*
June			
July			
—			
—			
April			
May			

19. Quatum of river supplies available in relation to withdrawals, as of March,1951

Whether river supply data available; the period of the year in which flow supplies are adequate to meet power requirements; number of days during which flow supplies are in excess of power requirements; period of the year in which power requirements are met wholly or partly from storage and quantum so diverted.

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Aspects such as navigation, water supply for towns, supplies given for industrial uses are specified; average utilisation for a number of years is given and the years specified.

21. Financial return of the scheme

Percentage of net return (gross return less working expenses) on the total capital outlay.

22. Main features and purpose of the scheme

23. Special features of the scheme

This item is included only if there are very special features not covered by items 1 to 22 above

Section 3

Particulars of Major and Medium Projects

KRISHNA DELTA SYSTEM 1A-K. 7-A.1

1. **Name of State** Andhra Pradesh (formerly in Madras)
2. **Scope of the scheme or system**

   Irrigation scheme; based on flow ; Ayacut 1,225,000 acres
3. **Source of supply**

   Krishna at Vijayawada ;

   Considerable uses upstream both existing and proposed
4. Not applicable
5 **Description of the head-works**

(as during 1941-42 to 1950-51)

Anicut : 3, 193 feet long, height of shutters 6 feet

Under sluices : left flank, 12 vents, each 6 feet × 8.5 feet, total capacity 9,920 cusecs
right flank, 15 vents, of different sizes, total capacity 10,210 cusecs.

Head regulators : left flank, 6 vents, each 20 feet × 11 feet
right flank, 18 vents, each 8 feet × 9.5 feet.

(as during 1951-52 to 1960-61)

Barrage : 3,448 feet long, with 72 spans of 40 feet each, capacity 1,190,000 cusecs

Scouring sluices : left flank, 6 spans of 17 feet each, total capacity 27,860 cusecs
right flank, 6 spans of 17 feet each, total capacity 37,150 cusecs
see also item 23 below

(as now proposed)

No change

6. **Description of the canals**

(as during 1941-42 to 1950-51)

Krishna Eastern Main Canal; 5 furlongs long (branches either ridge or contour, total length about 110 miles) ; off taking from left flank; perennial; unlined; authorised capacity not known, maximum drawn on any day, **11,070 cusecs**

Krishana Western Main Canal, (contour) ; 13 miles long (branches 101 miles) ; off taking from the right flank ; perennial ; unlined ; authorised capacity not known, maximum drawn on any one day **6,480 cusecs**

According to Madras P.W.D. Administration Reports, for both canals, taken together, maximum discharge as designed during the ten years period, increased from **14,286 cusecs to 15,571 cusecs**

(as during 1951-52 to 1960-61)

Krishna Eastern Main Canal —No change

Krishna Western Main Canal—highest discharge drawn on any one day, **7,640 cusecs**

For both canals, taken together, maximum discharge as designed was **15,571 cusecs** *in 1951-52*

(as now proposed)

It has been stated that the authorised capacity of the canals will be fixed shortly.

7. The year from which the scheme is in operation

1855; there have been additions to the system from time to time

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

Item	*Names of districts*			*Total*
	Krishna Eastern Canal		*Krishna Western Canal*	
	Krishna	*West Godavari*	*Guntur*	
		……*thousand acres*……		
		(as during 1941-42 to 1950-51)		
G. C. A.	831.4	88.0	668.0	**1,587.4**
C. C. A.	671.9	66.3	486.8	**1,225.0**
Ayacut	Distribution by districts not available, the total Ayacut under the system increased from 987,690 acres to 1,076,690 acres			**1,032.2**
		(as during 1951-52 to 1960-61)		
G. C. A.	831.4	88.0	668.0	**1,587.4**
C. C. A.	753.6	74.4	527.0	**1,355.0**
Ayacut	Distribution by districts not available, the total Ayacut under the system increased from 1,076,690 to 1,217,000 acres			**1,146.8**
		(as now proposed)		
G. C. A.		No change		
C. C. A.		No change		
Ayacut	Distribution by districts not available			**1,225.0**

According to the Administration Reports of Madras P.W.D. for the years 1941-42 to 1952-53 (Andhra Pradesh P.W.D. has not published any Administration Report thereafter), "the gross area commanded" is shown as 1,520,400 acres upto 1949-50. The Administration Report of 1950-51 does not show the "gross area commanded" and for 1951-52 and 1952-53, the "gross area commanded" is shown as 2,916,958 acres.

The "cultivable area commanded" is shown as 1,136,000 upto 1945-46 and 1,176,000 thereafter.

The "area irrigable by complete project" is shown as 1,056,000 acres upto 1945-46, 1,076,000 acres upto 1949-50 and 1,186,890 acres for 1951-52 and 1952-53.

"Area irrigable at present" is shown as 964,000 acres upto 1944-45 ; 964,527 acres for 1945-46 ; 968,000 acres thereafter upto 1949-50 and 1,081,958 acres during 1951-52 and 1952-53.

Andhra Pradesh has, however, stated that the C.C.A. of the following schemes undertaken since 1942 have not been fully incorporated in the Administration Reports of subsequent years.

Scheme	*Year of completion*	*C.C.A. (acres)*	*Additional G.C.A. (acres)*
Appapuram Channel	*1943*	*25,000*	*30,000*
Krishna West High Level Channel	*1943*	*25,000*	*30,000*
Sithampeta Channel	*1945*	*7,000*	*7,000*
Pedalanka Scheme	*1945*	*12,000*	—
Collair lands reclaimed	*1951*	*20,000*	—
		89,000	*67,000*

Accordingly the C.C.A. for the period 1941-42 to 1950-51 should be 1,136,000+89,000 or 1,225,000 acres and the G.C.A 1,520,400+67,000 or 1,587,400 acres. After 1951, the following new schemes were taken up :—

Krishna Barrage Scheme	*85,000*
Pumping Schemes	*10,000*
Swamps	*35,000*
	130,000

Total C.C.A. during 1951-52 to 1960-61 is thus 13,55,000 acres

9. Area irrigated annually and intensity of irrigation (both canals) *(See Annexure I)*

Area irrigated annually			*Intensity of irrigation in Ayacut*			
Maximum	*Minimum*	*Average*	*Perennial*	*Abi*	*Tabi*	*Total*
............*thousand acres*............			..............*percentage*......................			
		(as during 1941-42 to 1950-51)				
1,253.7	991.6	1,119·9*	—	105.5	3.0	108.5
		(as during 1951-52 to 1960-61)				
1,287.2	1,115.4	1,218.6*	0.4	98.4	7.5	106.3
		(as now proposed)				
		1,375.0*	2.0	98.0	12.3	112.3

**Exclusive of area under green manure which is estimated as 500,000 acres.*

10. Normal rainfall and river supply diverted

(i) Krishna Eastern Canal-Vijayawada side

Month	Rainfall			River supply diverted							Capacity factor*		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As proposed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......*inches*.........			..................*thousand million cubic feet (T.M.C.)*									
June	4.0	4.9	0.5	14.62	9.85	11.22	10.06	11.80	9.70	14.74	0.39	0.34	0.51
July	6.0	12.2	2.3	17.65	19.55	18.68	19.36	24.24	18.44	22.76	0.63	0.62	0.77
August	6.0	9.6	2.9	19.46	19.70	18.38	24.44	21.17	16.43	19.95	0.62	0.55	0.67
September	6.0	9.4	2.9	15.97	14.10	15.35	19.39	7.94	14.96	17.63	0.53	0.52	0.61
October	7.0	16.5	2.1	13.76	12.68	16.38	21.62	14.99	15.27	16.61	0.55	0.52	0.56
November	4.5	17.6	0.1	14.87	8.74	11.32	11.76	10.28	12.16	10.65	0.39	0.42	0.37
December	0.6	5.5	0.1	10.51	5.09	6.79	10.64	2.96	7.83	4.88	0.23	0.26	0.16
January	0.3	0.2	0.1	9.33	3.14	5.47	8.95	1.21	7.40	5.59	0.18	0.25	0.19
February	0.4	1.3	Nil	5.68	2.39	3.04	11.60	0.68	7.53	4.60	0.11	0.28	0.17
March	0.4	1.2	,,	0.95	1.71	1.68	10.57	0.28	7.78	4.95	0.06	0.26	0.17
April	0.6	1.5	0.1	0.48	0.47	1.04	9.55	0.94	7.41	5.46	0.04	0.26	0.19
May	1.5	6.6	0.1	Nil	1.36	0.48	0.17	0.03	0.30	Nil	0.02	0.01	—
Total	**37.3**			**123.28**	**98.78**	**109.83**	**158.11**	**96.52**	**125.21**	**127.82**			

* *calculated on the physical capacity of 11,070 cusecs.*

10. Normal rainfall and river supply diverted (*continued*)

(ii) Krishna Western Canal - Seethanagram side

Month	*Rainfall*			*River supply diverted*							*Capacity factor**		
				As during 1941-42 1950-51			*As during 1951-52 to 1960-61*			*As proposed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......*inches*.........			*thousand million cubic feet (T.M.C.)*									
June	4.0	4.9	0.5	7.82	4.49	6.56	5.03	7.95	6.08	9.94	0.39	0.31	0.50
July	6.0	12.2	2.3	14.66	14.96	14.27	14.83	14.43	13.96	15.35	0.82	0.68	0.75
August	6.0	9.6	2.9	15.41	14.62	13.76	17.67	14.25	12.72	13.45	0.79	0.62	0.66
September	6.0	9.4	2.9	9.95	9.69	11.44	12.48	7.72	11.38	11.90	0.68	0.57	0.60
October	7.0	16.5	2.1	10.32	7.24	11.34	15.42	11.55	11.45	11.20	0.65	0.56	0.55
November	4.5	17.6	0.1	12.53	6.11	8.84	11.54	8.01	10.80	7.18	0.53	0.55	0.36
December	0.6	5.5	0.1	5.60	2.55	4.37	6.97	4.04	6.00	3.30	0.25	0.29	0.16
January	0.3	0.2	0.1	4.28	1.56	3.33	5.19	2.04	4.25	3.77	0.19	0.21	0.18
February	0.4	1.3	Nil	1.50	0.65	1.68	4.48	0.74	3.56	3.11	0.11	0.19	0.17
March	0.4	1.2	,,	2.53	0.68	0.83	2.70	0.10	2.55	3.32	0.05	0.12	0.16
April	0.6	1.5	0.1	2.43	0.37	0.38	2.12	0.48	1.62	3.69	0.02	0.08	0.19
May	1.5	6.6	0.1	0.98	0.21	0.21	Nil	0.16	0.12	Nil	0.01	0.01	—
Total	**37.3**			**88.01**	**63.13**	**77.01**	**98.43**	**71.47**	**84.49**	**86.21**			

**calculated on the physical capacity of 6,480 for 1941-42 to 1950-51 and 7,640 for 1951-52 to 1960-61*

11. Not available

12. (a) Characteristics of soils in the commanded area

Alluvial and black clayey soils

(b) Not available

13. (a) **Crop pattern** (*see Annexure I*)

Perennial		*Abi*		*Tabi*		*Total cropped area (T. acres)*
Percentage of principal crops	*Total area (T.acres)*	*Percentage of principal crops*	*Total area (T.acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
Sugarcane		*Paddy*		*Paddy*		
			(average for 1941-42 to 1950-51)			
—	Nil	97.2	1,088.7	2.8	31.2	1,119.9
			(average for 1951-52 to 1960-61)			
0.4	4.6	92.6	1,128.0	7.0	86.0	1,218.6
			(as now proposed)			
1.8	25.0	87.3	1,200.0	10.9	150.0	1,375.0

(b) **Are there any rules for regulating crop pattern ?**

Yes

14. Delta at canal head

Perennial.........June to April
Abi .... June to December
Tabi..............January to April

Delta (feet)			
Perennial	*Abi*	*Tabi*	*Overall*
	(average for 1941-42 to 1950-51)		
—	3.6	13.4*	3.8
	(average for 1951-52 to 1960-61)		
—	3.4	10.8*	4.0
	(as now proposed)		
7.3	3.3	4.8	3.6

**green manure has a delta of 0.4 feet but the water used by green manure as well as navigation has been shown as included under Tabi*

15. (a) **Number of tanks in operation in the irrigated area and the area irrigated therefrom**

Nil

(b) **Number of wells in operation in the irrigated area and the area irrigated therefrom**

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supplies were generally sufficient for the first crop and the extent of the second crop was regulated by the supply available. There is considerable escapage during the rainy season.

The withdrawals now proposed during *Tabi* are based on anticipated releases from the Nagarjunasagar reservoir

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Navigation; washing salinity from irrigated areas near the coast and tidal drains whenever water is available; and irrigation of green manure and fodder crops (not assessed to water rate). No data are available regarding the quantity of water actually utilised for these purposes. Domestic water supply is given to Vijaywada, Ellore, Guntur and Masulipatam, the quantity so utilised is not available but is included in the figures given under item 10.

21. Financial return of the scheme

1943-44	18.72 percent
1951-52	7.21 ,,
1952-53	1.32 ,,
1953-54	4.53 ,,
1954-55	9.83 ,,
1955-56	7.33 ,,
1956-57	4.07 ,,
1957-58	2.40 ,,
1958-59	1.77 ,,

22. Main features and purpose of the scheme

Irrigation of about 1.2 million acres of paddy, proposed to increase to 1,375,000 acres

23. Special features of the scheme

A number of small schemes have been carried out on the canal system and as a result thereof, there has been considerable increase in the area irrigated on this system during the ten years, 1941-42 to 1950-51. This increase has been maintained during the decade from 1951-52 to 1960-61, during which period the C. C. A. was increased by 135,000 acres.

With the coming into operation of the Tungabhadra dam, the regulated supplies released from that dam have been utilised for irrigation of the second crop in the Krishna delta. During 1959-60, the latest year for which figures are available, the area under second crop was 161,641 acres against an earlier maximum, during 1949-50 of 46,658 acres and a minimum of 3,884 acres during 1941-42 ; the average for the 10 years ending 1950-51 being 22,796 acres. As the waters stored at Tungabhadra came to be utilised on the Tungabhadra canals, the second crop in the Krishna delta will receive irrigation supplies from the waters to be let down from the Nagarjunasagar dam under construction.

With the construction of the Krishna Barrage, as described under item 5 above, the operative pond level upstream of the barrage is now 4 feet higher than the pond level before the construction of the barrage.

Of the area irrigated under this scheme, about five percent are within the drainge basin of the Krishna river ; the rest lie outside this drainge basin.

KRISHNA DELTA SYSTEM

Annexure I

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated oy crops (acres)*			
	Perennial	*Abi*	*Tabi*	*Grand Total*
1941-42	Nil	987,690	3,884	**991,574**
42-43	,,	997,060	9,413	**1,006,473**
43-44	,,	1,044,169	15,763	**1,059,932**
44-45	,,	1,063,613	87,273	**1,150,886**
45-46	,,	1,080,916	21,285	**1,102,201**
46-47	,,	1,096,250	31,900	**1,128,150**
47-48	,,	1,106,411	28,626	**1,135,03**
48-49	,,	1,113,706	29,403	**1,143,109**
49-50	,,	1,181,241	46,658	**1,227,899**
50-51	,,	1,216,254	37,416	**1,253,670**
1951-52	,,	1,181,851	45,816	**1,227,667**
52-53	,,	1,084,529	30,839	**1,115,358**
53-54	,,	1,108,079	45,325	**1,153,404**
54-55	3,572	1,172,805	81,809	**1,258,186**
55-56	5,974	1,159,758	108,362	**1,274,094**
56-57	5,974	1,176,774	104,430	**1,287,178**
57-58	8,042	1,131,777	103,956	**1,243,775**
58-59	7,757	1,121,416	92,152	**1,221,325**
59-60	10,300	1,014,516	161,641	**1,186,457**
60-61	—	—	—	—
Average for the 10 years from 1941-42 to 1950-51	—	**1,088,731**	**31,162**	**1,119,893**
Average for the 9 years from 1951-52 to 1959-60	**4,624**	**1,127,945**	**86,037**	**1,218,606**

The figures for 1941-42 to 1945-46, as given above, agree with those given in the Madras P.W.D. Administration Reports for "area charged as irrigated and area irrigated free of charge." For later years upto 1952-53, the figures given above do not agree with those in the Administration Reports, but agree with the figures published in the yearly proceedings of the Madras Board of Revenue

KURNOOL CUDDEPAH CANAL 2A-K.8-A.2

1. **Name of State** Andhra Pradesh (formerly in Madras)

2. **Scope of the scheme or system**

Irrigation scheme ; based on flow ; Ayacut originally fixed at 196,227 acres ; prior to the remodelling and improvement operations carried out during 1954-62, it was about 103,000 *acres.

3. **Source of supply**

Tungabhadra at Sunkesula/**Krishna**

Considerable use upstream both existing and proposed

4. Not applicable

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Masonry anicut at Sunkesula, in two lengths across two arms of the river with an island in between. The anicut is 10 to 22 feet above river bed. Northern portion of anicut is 1,064 feet long and southern portion of anicut is 3,294 feet long. Catchment area 25,405 square miles.

Scour sluices : 12 vents, 6 feet 6 inches × 5 feet each, total capacity 5,600 cusecs

Head sluices : 12 vents, 7 feet 3 inches × 7 feet each

(as during 1951-52 to 1960-61)

Installation of 3 feet falling shutters over the crest was taken up in 1955 and is expected to be completed in June 1962. A new head sluice has been constructed at Kothakota with 5 vents of 15 feet × 7 feet each.

Capacity of old scour sluices increased to 6,750 cusecs

(as now proposed)

No change

6. **Description of the canal**

(as during 1941-42 to 1950-51)

Kurnool Cuddepah Canal ; right side ; 191 miles long (branches 128 miles) ; contour from head to mile 74, from mile 94 to mile 118 and from mile 146 to mile 172, ridge in remaining length ; perennial for first 17 miles and then two seasonal ; unlined ; authorised capacity originally fixed at 3,000 cusecs but, due to damage to anicut, subsequent lowering of crest by 3 feet and also due to general deterioration, the canal could not carry more than 2,025 cusecs from 1941-42, 1,570 cusecs from 1946-47 and 1,820 cusecs from 1950-51.

(as during 1951-52 to 1960-61)

Under remodelling scheme, undertaken in two stages in 1954-55 and 1958 and since mostly completed, the canal has been lined for first 75 miles in order to enable it to take 3,000 cusecs ; 26 miles of new branch canals have been added.

A new escape has been built in the canal, about 2,000 feet below the head regulator, with 4 vents of 7 feet × 4 feet 6 inches.

(as now proposed)

No change

---

* *See foot note under item 8 below*

7. The year from which the scheme is in operation

1866 ; the anicut crest was lowered by 3 feet in 1882 and canal capacity considerably reduced.

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

Item	*Names of districts*		*Total*
	Kurnool	*Cuddepah*	
	.................................*thousand acres*	....	
	(as during 1941-42 to 1950-51)		
G. C. A.	N. A.	N. A.	N. A.
C. C. A.	,,	,,	,,
Ayacut	55.1	47.9	103.0*
The Madras P. W. D. Administration Reports give the following figures			
C. C. A.	319.9	37.7	357.6
	(as during 1951-52 to 1960-61)		
Same as above ; remodelling and improvement operations in progress with a view to irrigate annually 196,277 acres, half paddy and half other crops.			
	(as now proposed)		
G. C. A.	N. A.	N. A.	N. A.
C. C. A.	,,	,,	,,
Ayacut	184.9	93.1	278.0

* *As given in the Project Estimate of Remodelling Kurnool Cuddepah Canal for Rupees 3.9 crores; the Administration Reports of Madras P.W.D. for the years 1941-42 to 1952-53 show the "Area irrigated by complete project" as 130,282 acres and "Area irrigable at present" as 123, 419 acres.*

9. Area irrigated annually and intensity of irrigation *(See Annexture I)*

Area irrigated aunually			*Intensity of irrigation on Ayacut (103,000 acres)*			
Maximum	*Minimum*	*Average*	*Perennial*	*Kharif*	*Rabi*	*Total*
……………………*thousand acres*………			……………… *percentage*……………………			
(as during 1941-42 to 1950-51)						
107.7	88.3	97.8	Nil	81.7	13.2	94.9
(as during 1951-1952 to 1960-61)						
149.1	97.1	118.0	Nil	101.1	13.4	114.5
(as now proposed; Ayacut 278,000 acres)						
—	—	288.0	5.0	72.0	26.6	103.6

10. Normal rainfall and river supply diverted

Month	*Rainfall*			*River supply diverted*						*As proposed*	*Capacity factor on 3,000 cusecs*		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*				*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*
	Normal	*Minimum*	*Maximum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	……*inches*……			……*thousand million cubic feet (T. M. C.)*									
June	3.2	6.1	0.6	1.53	0.58	1.28	0.52	1.05	0.55	5.81	0.16	0.07	0.75
July	4.5	12.7	3.0	4.22	2.05	3.84	4.07	3.06	3.33	5.97	0.48	0.41	0.74
August	5.0	13.5	1.0	4.22	4.22	4.40	4.33	2.79	4.51	6.07	0.55	0.56	0.76
September	6.0	14.0	1.6	4.93	4.00	4.23	4.66	4.26	4.90	6.60	0.54	0.63	0.85
October	4.0	8.0	0.9	5.05	4.87	4.40	4.23	4.63	5.15	6.50	0.55	0.64	0.81
November	2.1	6.1	Nil	4.75	4.26	4.40	4.52	4.64	5.12	1.27	0.57	0.66	0.16
December	0.3	0.9	,,	4.59	3.69	4.30	4.45	3.48	4.70	1.88	0.54	0.58	0.23
January	0.1	0.2	,,	3.82	1.95	3.34	4.30	0.01	2.69	1.36	0.42	0.33	0.17
February	0.3	0.3	,,	2.10	0.73	1.51	4.60	Nil	1.47	1.35	0.21	0.20	0.19
March	0.3	0.5	,,	0.85	0.66	0.79	4.37	,,	1.46	1.45	0.10	0.18	0.18
April	0.8	1.5	,,	0.52	0.13	0.24	1.55	,,	0.65	0.93	0.03	0.08	0.12
May	1.5	6.1	0.4	0.12	0.16	0.29	0.19	,,	0.07	0.68	0.04	0.01	0.08
Total	**28.1**			**36.70**	**27.30**	**33.02**	**41.79**	**23.92**	**34.60**	**39.87**			

* *The figures for the year 1960-61 have not been considered, as the canal was also used for escaping river supplies in view of repair work to the anicut.*

11. Not available

12. **(a) Charateristics of soils in the commanded area**

Black, red and loamy soils ; ordinary gravel and white gravel are met with at 3 to 7 feet below ground level

(b) Not available

13. **(a) Crop pattern** (*See Annexure I*)

Perennial		*Kharif*			*Rabi*			
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*		*Total area (T. acres)*	*Percentage of principal crops*		*Total area (T. acres)*	*Total cropped area (T.acres)*
Sugarcane		*Paddy*	*Others*		*Paddy*	*Others*		
		(as during 1941-42 to 1950-51)						
Nil	Nil	—86.0*—		**84.1**	—14.0—		**13.7**	**97.8**
		(as during 1951-52 to 1960-61)						
Nil	Nil	—88.3*—		**104.2**	—11.7—		**13.8**	**118.0**
		(as now proposed)						
4.9	**14.0**	47.2	22.2	**00.0**	3.5	22.2	**74.0**	**288.0**

**crop-wise distribution not available, mostly paddy*

(b) Are there any rules for regulating crop pattern ?

Paddy and sugarcane areas have been registered

14. **Delta at canal head**

Perennial	:	June to May
Kharif	:	June to December
Rabi	:	January to May

Delta (feet)					
Perennial	*Kharif*		*Rabi*		
Sugarcane	*Paddy*	*Others*	*Paddy*	*Others*	*Overall*
	(average for 1941-42 to 1950-51)				
—	—7.3—		—10.4—		7.8
	(average for 1951-52 to 1959-60)				
—	—6.2—		—10.6—		6.7
	(as now proposed)				
7.4	4.4	1.5	6.1	1.5	3.2

15. **(a) Number of tanks in operation in the irrigated area and the area irrigated therefrom**

11 tanks in the Ayacut ; irrigating 7,403 acres ; merged in the Ayacut

(b) Not available

16. **Quantum of river supplies available in relation to withdrawals, as of March, 1951**

River supplies were generally sufficient for canal requirements, but the adequacy or otherwise of supplies required for new developments on this canal would be governed by the requirements of an integrated basin-wide plan.

17. to 19. Not applicable

GENERAL

20. **Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns**

City water supply to Kurnool and Nandyal ; particulars of quantities *etc.*, not available

21. **Financial return of the scheme**

About 0.3 percent, but it is expected to improve after the remodelling which has just been completed

22. **Main features and purpose of the scheme**

About 100,000 acres of crop, mainly paddy ; with the remodelling recently completed, crop acreage is expected to increase to 288,000 acres

23. **Special features of the scheme**

The annual diversions by this canal have been relatively high when compared with the areas irrigated, largely because there was considerable seepage and wastage from the canal. As such, the river supplies diverted are not a correct indication of the waters actually applied to the fields. It may be mentioned that for irrigation of 100,000 acres during 1953-54, the annual diversion was 41.79 T. M. C. For almost the same area the annual diversion was 29.47 T.M.C. in 1954-55 and in the year following 23.92 T.M.C. During the year 1960-61, the diversion during December to May was as much as 23.48 T.M.C., while the area irrigated during *rabi* was only 20,300 acres.

During the period 1951-52 to 1960-61, the canal has been re-modelled in accordance with the provisions in the Plans, to take an increased supply of water and it is now intended to irrigate, 288,000 acres on this canal against an average of 87,320 acres for the five year period 1946-47 to 1950-51.

Out of the present Ayacut of 103,000 acres, only 12,000 acres lie in the drainage basin of the Krishna. Out of the proposed Ayacut of 278,000 acres only 45,000 acres will be in the drainage basin of the Krishna ; the rest of the irrigation will be in the drainage basin of the Pennar.

Annexure I

KURNOOL CUDDEPAH CANAL SYSTEM

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*		
	*Kharif**	*Rabi**	*Grand Total***
1941-42†	82,345	10,881	**93,226**
42-43†	88,579	13,632	**102,211**
43-44†	89,369	18,306	**107,675**
44-45†	79,506	13,485	**92,991**
45-46†	79,599	8,690	**88,289**
46-47	85,041	10,659	**95,700**
47-48	81,013	14,376	**95,389**
48-49	85,912	14,529	**100,441**
49-50	82,358	15,092	**97,450**
50-51	87,386	17,019	**104,405**
1951-52	82,446	14,696	**97,142**
52-53	85,560	13,375	**98,935**
53-54	91,284	17,717	**109,001**
54-55	100,752	11,379	**112,131**
55-56	99,689	7,733	**107,422**
56-57	95,974	6,264	**102,238**
57-58	105,522	12,897	**118,419**
58-59	127,620	21,521	**149,141**
59-60	125,471	10,668	**136,139**
60-61	127,620	21,521	**149,141**
Average for the 10 years from 1941-42 to 1950-51	**84,111**	**13,667**	**97,778**
Average for the 10 years from 1951-52 to 1960-61	**104,194**	**13,777**	**117,971**

**Crop-wise particulars not available*

***The figures given by Andhra Pradesh for the years 1946-47 to 1960-61 conform to the figures given in the Administration Reports of Madras P. W. D. for "area charged as irrigated and area irrigated free of charge" for Kurnool Cuddepah Canal inclusive of Chepad channel.*

†*Information stated to be not available, figures given above are from the Madras P. W.D. Administration Reports for "area charged as irrigated and area irrigated free of charge," for Kurnool Cuddepah Canal inclusive of Chepad channel*

DINDI PROJECT

3A-K.7-A.3

1. **Name of State** Andhra Pradash (formerly in Hyderabad)
2. **Scope of the scheme or system**

   Irrigation scheme; flow-cum-storage; Ayacut 10,000 acres
3. **Source of supply**

   Dindi river near Gundlapally/**Krishna**

   Irrigation uses upstream : minor tanks only
4. **Description of the reservoir or tank**

(as during 1943-44 to 1950-51)

Live storage	2.42 T.M.C.
Dead storage	0.19 ,,
Carry-over	Nil
Annual reservoir losses	0.73 T.M.C.
Filling period	June to September
Depletion period	October to May
Catchment area	1,513 square miles
Area submerged	3, 411 acres
Full reservoir level	R.L. 1,298
Minimum pond level	R.L. 1,265

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1943-44 to 1950-51)

Dam:	earthen, 4,941 feet long, about 50 feet high
Spillway:	ogee type, 1,000 feet long, capacity 102,500 cusecs and high coefficient weir, 1,700 feet long, capacity 141, 500 cusecs.
Outlets:	head sluice, 3 vents, 4 feet x 6 feet each, total capacity 300 cusecs ; scouring sluices, 14 vents, 3 feet x 7 feet each, total capacity 27,500 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canal

(as during 1943-44 to 1950-51)

Dindi Main Canal (contour); left bank; 7 miles long (branches 9 miles long); two-seasonal; unlined; authorised capacity **300 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1943

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

(as during 1943-44 to 1950-51)

District Nalgonda

G.C.A.	45,000 acres
C.C.A.	39,000 ,,
Ayacut	10,000 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

G.C.A.	No change
C.C.A.	No change
Ayacut	12,500 acres

9. Area irrigated annually and intensity of irrigation *(See Annexure I)*

Area irrigated annually			*Intensity of irrigation on Ayacut (10,000 acres*		
Maximum	*Minimum*	*Average*	*Abi*	*Tabi*	*Total*
....................*thousand acres*	....	....	.... *percentage*	....	....
(as during 1943-44 to 1950-51)					
9.2	3.8	7.3	43.9	29.3	**73.3**
(as during 1951-52 to 1960-61)					
17.7	8.8	14.7	113.1	34.0	**147.2**
(as now proposed, Ayacut 12,500 acres)					
		19.5	100.0	56.0	**156.0**

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1943-44 to 1950-51			As during 1951-52 to 1960-61			As now proposed	As during 1943-44 to 1950-51	As during 1951-52 to 1960-61	As now proposed
	Normal	Maximum	Minimum	Max.-mum	Minimum	Average	Maximum	Minimum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........inches......			......thousand million cubic feet (T.M.C.)...............									
June	3.5	6.0	1.1	Nil	0.01	0.05	0.05	0.27	0.21	0.15	0.06	0.27	0.19
July	4.5	5.3	1.6	0.18	0.04	0.16	0.49	0.50	0.45	0.40	0.20	0.56	0.50
August	4.0	12.8	3.0	0.39	0.10	0.31	0.41	0.58	0.44	0.60	0.39	0.55	0.75
September	5.5	10.6	4.3	0.40	0.13	0.28	0.41	0.48	0.45	0.70	0.36	0.58	0.90
October	3.5	9.2	1.4	0.41	0.09	0.26	0.32	0.48	0.46	0.58	0.32	0.57	0.72
November	2.0	1.0	Nil	0.29	0.09	0.17	0.28	0.10	0.20	0.07	0.22	0.26	0.09
December	0.3	0.8	,,	0.19	0.16	0.15	0.13	Nil	0.07	0.04	0.19	0.09	0.05
January	0.3	Nil	,,	0.33	0.12	0.22	0.26	,,	0.14	0.53	0.27	0.17	0.66
February	0.3	0.1	,,	0.30	0.12	0.21	0.24	,,	0.14	0.42	0.29	0.19	0.58
March	0.3	2.8	,,	0.38	0.17	0.24	0.34	,,	0.18	0.59	0.30	0.22	0.74
April	0.8	1.4	0.1	0.28	0.10	0.18	0.38	,,	0.15	0.48	0.23	0.19	0.62
May	1.5	5.4	Nil	0.02	Nil	0.02	0.70	,,	0.09	0.04	0.02	0.11	0.05
Total	**26.5**			**3.17**	**1.13**	**2.25**	**4.01**	**2.41**	**2.98**	**4.60**			

11. Not available

12. (a) Characteristics of soils in the commanded area Mostly sandy loam

(b) Not available

13. (a) Crop pattern (*See Annexure I*)

Abi		Tabi		Total cropped area (T. acres)
Percentage of principal crops	Total area (T. acres)	Percentage of principal crops	Total area (T. acres)	
Paddy		Paddy		
(average for 1943-44 to 1950-51)				
60.0	4.4	40.0	2.9	7.3
(average for 1951-52 to 1960-61)				
76.9	11.3	23.1	3.4	14.7
(as now proposed)				
64.1	12.5	35.9	7.0	19.5

(b) Are there any rules for regulating crop pattern? No

14. Delta at canal head

Abi : June to November
Tabi : December to May

Delta (feet)		
Abi	*Tabi*	*Overall*
	(average for 1943-44 to 1950-51)	
6.4	8.0	7.0
	(average for 1951-52 to 1960-61)	
4.5	5.2	4.6
	(as now proposed)	
4.6	6.9	5.4

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

55 tanks, with Ayacut of 1,795 acres in the C.C.A. of the project, excluded from the Ayacut

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

513 wells, irrigating 800 acres in the C.C.A. of the project, excluded from the Ayacut

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply data available for only three years ; river supplies are stated to have been sufficient for irrigation requirements

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Nil

21. Financial return of the scheme Varies from 4.9 percent to 3.10 percent

22. Main features and purpose of the scheme

Paddy cultivation of about 15,000 acres, proposed to be increased to 19,500 acres.

23. Special features of the scheme

This project, which came into operation in 1943, was originally intended to irrigate 39,000 acres of mixed crop annually (including 15,000 acres of *rabi Jowar* and 15,000 acres of *kharif Jowar*). Later, it was decided to switch over to Paddy (10,000 acres *abi* and 5,000 acres *tabi*) and restrict irrigation facilities to only 19 villages out of 34 covered by the original project.

The Ayacut is now proposed to be increased to 12,500 acres with an increase in annual irrigation and in total diversion. It appears that the supplies available in the river, at the site of the dam, have been found to be more than those anticipated in the project.

DINDI PROJECT

Annexure I

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*		
	Abi	*Tabi*	*Grand Total*
1941-42	N. A.	N. A.	**N.A.**
42-43	„	„	„
43-44	1,771	2,935	**4,706**
44-45	5,670	1,942	**7,612**
45-46	5,081	4,069	**9,150**
46-47	5,320	2,534	**7,854**
47-48	4,113	3,604	**7,717**
48-49	4,291	4,239	**8,530**
49-50	1,452	2,360	**3,802**
50-51	7,459	1,753	**9,212**
1951-52	8,188	580	**8,768**
52-53	9,999	3,649	**13,648**
53-54	11,497	3,468	**14,965**
54-55	12,074	4,015	**16,089**
55-56	11,633	6,061	**17,694**
56-57	11,251	6,160	**17,411**
57-58	12,000	2,000	**14,000**
58-59	12,000	2,500	**14,500**
59-60	12,000	3,000	**15,100**
60-61	12,500	2,600	**15,100**
Average for 8 years from 1943-44 to 1950-51	**4,395**	**2,926**	**7,333**
Average for 10 years from 1951-52 to 1960-61	**11,314**	**3,403**	**14,718**

PALAIR PROJECT 4A-K.11-A.4

1. **Name of State.** Andhra Pradesh (formerly in Hyderabad)
2. **Scope of the scheme or system**
   Irrigation scheme, flow-cum-storage, Ayacut 19,700 acres upto 1946 and 16,700 acres from 1947
3. **Source of supply**
   Palair near Khammam-suryapet/**Krishna**
   Utilisation upstream : minor works only
4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	2.34 T. M. C.
Dead storage	0.22 ,,
Carry-over	Nil
Annual reservoir losses	Maximum 1.13 T.M.C. ; average 0.68 T.M.C.
Filling period	June to September
Depletion period	October to April
Catchment area	651 square miles
Area submerged	4,288 acres
Full reservoir level	R. L. 439
Minimum pond level	R. L. 416

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam : earthen, 8,300 feet long, 67.5 feet high
Spillway : 2,027 feet long, capacity 96,795 cusecs ; automatic falling gates, 6 of 50 feet each
Head sluices : 4 vents, each 4 feet ×6 feet

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Left Flank Canal (contour) ; 14.5 miles long ; non-perennial ; unlined ; capacity **320 cusecs**

Right Flank Canal ; abandoned in 1947

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1928

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

	Left Flank Canal	*Right Flank Canal*	*Total*
	thousand acres		
District Khammam			
		(as during 1941-42 to 1950-51)	
G.C.A.	21.2	2.4	23.6
C.C.A.	18.2	1.5	19.7
Ayacut	18.2	1.5	19.7
		(as during 1951-52 to 1960-61)	
G. C. A.	21.2	—	21.2
C. C. A.	18.2	—	18.2
Ayacut	16.7	—	16.7
		(as now proposed)	
		No change	

9. Area irrigated annually and intensity of irrigation (*See Annexure I*)

Area irrigated annually			*Intensity of irrigation on Ayacut*		
Maximum	*Minimum*	*Average*	*Abi*	*Rabi*	*Total*
thousand acres			*percentage*		
		(as during 1941-42 to 1950-51)			
13.1	7.4	11.0	62.9	3.0	65.9
		(as during 1951-52 to 1960-61)			
17.4	14.2	16.1	87.4	9.0	96.4
		(as now proposed)			
		18.2	100.0	9.0	109.0

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51			*As during 1958-59 to 1960-61*			*As proposed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......*inches*......			... *thousand million cubic feet (T.M.C.)*...									
June	4.8	8.0	0.9	0.06	0.10	0.03	0.05	Nil	0.05	0.19	0.03	0.06	0.23
July	6.7	18.8	3.5	0.52	0.35	0.35	0.44	0.18	0.38	0.48	0.38	0.44	0.56
August	5.7	10.5	2.2	0.83	0.29	0.49	0.84	0.27	0.69	0.72	0.54	0.81	0.84
September	6.4	15.1	3.9	0.80	0.20	0.58	0.81	0.06	0.60	0.84	0.66	0.72	1.01
October	5.0	7.6	0.4	0.86	0.41	0·63	0.95	0.25	0.73	0.69	0.69	0.85	0.81
November	1.3	6.3	Nil	0.66	0.32	0.57	0.68	0.27	0.47	0.09	0.65	0.57	0.11
December	0.8	0.8	,,	0.01	0.02	0.03	Nil	0.01	Nil	0.01	0.03	—	0.01
January	0.1	0.1	,,	0.12	Nil	0.08	0.11	Nil	0.05	0.11	0.09	0.06	0.13
February	0.7	0.7	,,	0.13	0.01	0.08	0.21	,,	0.09	0.09	0.10	0.12	0.12
March	0.4	0.9	,,	0.16	0.01	0.09	0.20	,,	0.11	0.13	0.10	0.13	0.15
April	0.9	3.6	,,	0.12	Nil	0.06	0.18	,,	0.09	0.10	0.07	0.11	0.12
May	1.1	3.0	,,	Nil	,,	0.01	0.04	,,	0·01	0.01	0.01	0.01	0.01
Total	**33.9**			**4.27**	**1.71**	**3.00**	**4.51**	**1.04**	**3.27**	**3.46**			

11. Not available.

12. (a) **Characteristics of soils in the commanded area** Light and heavy clay loams

(b) Not available

13. (a) **Crop pattern** (*See Annexure I*)

Abi		*Rabi*			*Total cropped area (T.acres)*
Percentage of principal crops	*Total area (T.acres)*	*Percentage of principal crops*		*Total area (T. acres)*	
Paddy		*Paddy*	*Groundnut*		
	(average for 1941-42 to 1950-51)				
95.5	**10.5**	4.5	—	**0.5**	**11.0**
	(average for 1951-52 to 1960-61)				
90.7	**14.6**	8.0	1.3	**1.5**	**16.1**
	(as now proposed)				
91.8	**16.7**	8.2	—	**1.5**	**18.2**

(b) **Are there any rules for regulating crop pattern ?** No

14. Delta at canal head

Kharif: June to November
Rabi : December to May

Delta (feet)		
Kharif	*Rabi*	*Overall*
	(average for 1941-42 to 1950-51)	
5.7	17.8	6.3
	(average for 1951-52 to 1960-61)	
4.6	5.3	4.7
	(as now proposed)	
4.1	6.9	4.4

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

5 tanks, irrigating 420 acres, merged with project area

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply data available for only three years. In two years, the river supply was in excess of withdrawals and in the third year it was less than canal requirements.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Nil

21. Financial return of the scheme

1959	7.79 percent
1960	8.46 percent

22. Main features and purpose of the scheme

Paddy cultivation (16,000 acres)

PALAIR PROJECT

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Annexure

Year	*Area irrigated by crops (acres)*				
	Abi	*Rabi*			*Grand Total*
	Paddy	*Paddy*	*Groundnut*	*Total*	
1941-42	7,435	—	—	—	**7,435**
42-43	8,426	—	—	—	**8,426**
43-44	9,326	—	—	—	**9,326**
44-45	10,626	—	—	—	**10,626**
45-46	11,215	—	—	—	**11,215**
46-47	11,624	—	—	—	**11,624**
47-48	12,630	—	—	—	**12,630**
48-49	11,208	1,507	—	1,507	**12,715**
49-50	10,903	1,507	—	1,507	**12,410**
50-51	11,626	1,507	—	1,507	**13,133**
1951-52	12,713	1,507	—	1,507	**14,220**
52-53	13,808	1,507	—	1,507	**15,315**
53-54	13,809	1,507	—	1,507	**15,316**
54-55	14,008	1,507	—	1,507	**15,515**
55-56	14,188	1,507	—	1,507	**15,895**
56-57	14,708	1,507	—	1,507	**16,215**
57-58	15,478	1,292	215	1,507	**16,985**
58-59	15,618	1,183	324	1,507	**17,125**
59-60	15,821	1,172	335	1,507	**17,328**
60-61	15,941	1,192	315	1,507	**17,448**
Average for the 10 years from 1941-42 to 1950-51	**10,502**	**452**	—	**452**	**10,954**
Average for the 10 years from 1951-52 to 1960-61	**14,609**	**1,388**	**119**	**1,507**	**16,116**

PAKHAL LAKE

5A-K.12-A.5

1. **Name of State** Andhra Pradesh (formerly in Hyderabad)
2. **Scope of the scheme or system**

   Irrigation scheme; flow-cum-storage; Ayacut 9,500 acres
3. **Source of supply**

   Pakhal vagu (called Munair river, in lower reaches)/**Krishna**

   Utilisation upstream: existing, small tanks only
4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	3.26 T.M.C.
Dead storage	0.13 ,,
Carry-over	Nil
Annual reservoir losses	Maximum—1.00 T.M.C. Average— 0.85 ,,
Filling period	June to September
Depletion period	October to April
Catchment area	105 square miles
Area submerged	5,120 acres
Full reservoir level	R.L. 830
Minimum pond level	R.L. 800

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam : earthern, 4,000 feet long, 63 feet high

Spillway : 400 feet long, capacity 20,840 cusecs

Head sluices : (i) Sangam sluice 1.5 feet diameter, capacity 14 cusecs

(ii) Molla sluice 1.5 feet diameter, capacity 28 cusecs

(iii) Tower sluice 3 vents, each 2.5 feet × 2.5 feet, total capacity 123 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Sangam Channel (contour) ; left flank ; 12 miles long ; two seasonal ; unlined ; authorised capacity **140 cusecs**

Jalabandham Channel (contour) ; right flank ; 12 miles long ; perennial ; unlined ; authorised capacity **123 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1922

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

District Warangal

	Sangam Channel	*Jalabandham Channel*	*Total*
	thousand acres		
	(as during 1941-42 to 1950-51)		
G.C.A.	14.5	4.7	19.2
C.C.A.	9.6	3.1	12.7
Ayacut	7.0	2.5	9.5
	(as during 1951-52 to 1960-61)		
	No change		
	(as now proposed)		
	No change		

9. Area irrigated annually and intensity of irrigation (both canals)

Area irrigated annually			*Intensity of irrigation on Ayacut*		
Maximum	*Minimum*	*Average*	*Abi*	*Tabi*	*Total*
thousand arces			*percentage*		
		(as during 1941-42 to 1950-51)			
6.9	3.0	5.2	9.4	45.3	**54.7**
		(as during 1951-52 to 1960-61)			
12.4	6.1	9.5	47.4	52.6	**100.0**
		(as now proposed)			
		10.6	100.0	11.6	**111.6**

10. Normal rainfall and river supply diverted (both canals)

Month	Rainfall			River supply diverted					Capacity factor		
	Normal	Maximum	Minimum	As during 1941-42 to 1950-51	As during 1954-55 to 1960-61 Maximum	As during 1954-55 to 1960-61 Minimum	As during 1954-55 to 1960-61 Average	As proposed	As during 1941-42 to 1950-51	As during 1954-55 to 1960-61	As proposed
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
	inches			*thousand million cubic feet (T. M. C.)*							
June	7.3	12.0	1.6	Not available	0.03	0.01	0.05	0.09	Not available	0.07	0.13
July	11.0	25.5	6.9		0.07	0.05	0.11	0.25		0.16	0.36
August	8.8	18.8	4.9		0.11	0.05	0.18	0.39		0.26	0.55
September	7.3	15.7	1.9		0.12	0.04	0.15	0.45		0.22	0.66
October	2.1	7.5	Nil		0.24	0.07	0.22	0.37		0.31	0.53
November	1.0	3.2	,,		0.19	0.06	0.14	0.05		0.21	0.07
December	0.1	1.4	,,		Nil	Nil	Nil	0.01		—	0.01
January	0.2	1.3	,,		0.20	0.19	0.16	0.08		0.23	0.11
February	0.9	0.8	,,		0.35	0.19	0.21	0.06		0.33	0.09
March	0.4	4.2	,,		0.37	0.22	0.25	0.10		0.35	0.14
April	0.8	3.3	,,		0.37	0.27	0.24	0.08		0.35	0.12
May	1.6	6.7	,,		0.13	0.04	0.07	0.01		0.10	0.0
Total	**41.5**			**0.9***	**2.18**	**1.20**	**1.78**	**1.94**			

*assumed on the basis of the 1954-55 to 1960-61 figures

11. Not available

12. (a) Characteristics of soils in the commanded area

Light and heavy clay loams

(b) Not available

13. (a) Crop pattern

Abi		Tabi		
Percentage of principal crops Paddy	Total area (T. acres)	Percentage of principal crops Paddy	Total area (T. acres)	Total cropped area (T. acres)
(average for 1941-42 to 1950-51)				
17.3	**0.9**	82.7	**4.3**	**5.2**
(average for 1951-52 to 1960-61)				
48.4	**4.6**	51.6	**4.9**	**9.5**
(as now proposed)				
89.6	**9.5**	10.4	**1.1**	**10.6**

(b) Are there any rules for regulating crop pattern ? No

14. Delta at canal head

Abi : June to November
Tabi : December to May

Delta (feet) Abi	Tabi	Overall
(average for 1941-42 to 1950-51)		
Not available		
(average for 1951-52 to 1960-61)		
4.2	4.4	4.3
(as now proposed)		
3.9	7.1	4.2

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Nil

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

6 wells

16. Quantum of river supplies available in relation to withdrawals

River supply data not available. The flow available is stated to be just sufficient for the Ayacut; the tank surpluses rarely.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Nil

21. Financial return of the scheme

1957 = 21.49 percent
1958 = 18.63 „
1959 = 23.25 „
1960 = 23.10 „
1961 = 17.23 „

22. Main features and purpose of the scheme

Paddy cultivation of 10,000 acres

MUNIYERU PROJECT

6A-K.12-A.6

1. **Name of State** Andhra Pradesh (formerly in Madras)
2. **Scope of the scheme or system**
   Irrigation scheme ; based on flow ; Ayacut 11,300 acres increasing to 13,600 acres
3. **Source of supply**
   Muniyeru/**Krishna**
   Utilisation upstream : minor schemes only
4. Not applicable
5. **Description of the headworks**

(as during 1941-42 to 1950-51)

	Length in feet	*Capacity*
Undersluice portion of wall	50.0	135 cusecs
Main anicut	566.5	17,557 ,,
Paved *Lanka* No. 1 (low portion)	100.0	1,852 ,,
Paved *Lanka* No. 1 (high portion)	166.0	620 ,,
Rough stone dam	454.0	14,154 ,,
Paved *Lanka* No. 2	294.5	—
By wash	380.0	4,057 cusecs

Head sluices : 4 vents, each 6.5 feet ×5 feet, total capacity 460 cusecs
Undersluices : 4 vents, each 6 feet × 5 feet, total capacity 949 cusecs
Catchment area above anicut 2,357 square miles

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. **Description of the canal**

(as during 1941-42 to 1950-51)

Muniyeru Canal (contour) ; left bank ; 26.1 miles long ; two seasonal ; unlined ; capacity **245 cusecs***

(as during 1951-52 to 1960-61)

Capacity of canal **319 cusecs**

(as now proposed)

Capacity of canal **350 cusecs**

According to Madras P.W.D. Administration Reports for 1944-45 to 1952-53 the "maximum discharge of the canal as designed" is* **338 cusecs

7. The year from which the scheme is in operation 1898-99

GENERAL

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

(as during 1941-42 to 1950-51)

District Krishna

G.C.A.	14,500 acres*
C.C.A.	13,000 acres*
Ayacut	11,300 acres†
(as during 1951-52 to 1960-61)	
G.C.A.	15,900 acres
C.C.A.	14,500 ,,
Ayacut	13,600 ,,
(as now proposed)	
G.C.A.	17,400 acres
C.C.A	16,000 ,,
Ayacut	15,100 ,,

**These figures agree with those given in the Madras P.W.D. Administration Reports.*

†*The Administration reports give the "Area irrigable by complete project" as 10,580 acres and the "Area irrigable at present" as 10,000 acres*

9. Area irrigated annually and intensity of irrigation *(See Annexure I)*

Area irrigated annually			*Intensity of irrigation on Ayacut*		
Maximum	*Minimum*	*Average*	*Abi*	*Rabi*	*Total*
……*thousand acres*……			……*percentage*……		
(as during 1941-42 to 1950-51)					
11.3	10.8	10.9	96.0	—	96.0
(as during 1951-52 to 1960-61)					
17.6	10.4	14.0	92.9	10.2	103.1
(as now proposed)					
		19.1	100.0	26.5	126.5

10. Normal rainfall and river supply diverted

Month	*Rainfall*			*River supply diverted**					*Capacity factor*		
	Normal	*Maximum*	*Minimum*	*As during 1941-42 to 1950-51*	*As during 1954-55 to 1960-61*			*As proposed*	*As during 1941-42 to 1950-51*	*As during 1954-55 to 1960-61*	*As proposed*
					Maximum	*Minimum*	*Average*				
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
	……*inches*……				*thousand million cubic feet*						
June	4.5	6.9	0.7	Not available	0.13	0.06	0.06	0.21	Not available	0.07	0.23
July	7.0	19.4	3.7		0.57	0.25	0.30	0.55		0.35	0.59
August	7.0	14.4	2.6		0.65	0.50	0.63	0.82		0.74	0.88
September	6.0	10.0	3.5		0.60	0.27	0.57	0.90		0.69	0.99
October	5.0	8.9	Nil		0.68	0.53	0.63	0.85		0.74	0.91
November	2.0	5.3	,,		0.61	0.35	0.53	0.10		0.64	0.11
December	0.3	1.5	,,		0.19	0.21	0.18	0.01		0.21	0.01
January	0.3	0.5	,,		0.40	0.11	0.14	0.07		0.16	0.07
February	0.5	1.3	,,		0.25	Nil	0.09	0.05		0.12	0.06
March	0.5	1.7	,,		0.24	,,	0.09	0.07		0.11	0.07
April	0.8	2.2	,,		0.23	,,	0.07	0.06		0.08	0.07
May	1.5	4.7	0.1		0.03	,,	Nil	0.01		—	0.01
Total	35.4			2.6*	4.58	2.28	3.29	3.70			

**assumed on the basis of 1954-55 to 1960-61 figures*

11. Not available

12. (a) **Characteristics of soils in the commanded area** Light and heavy clay loams

(b) Not available

13. (a) **Crop pattern** (*See Annexure I*)*

Abi		*Rabi*		*Total cropped area (T. acres)*
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
Paddy		*Groundnut*		
	(average for 1941-42 to 1950-51)			
100.0	10.9	—	—	10.9
	(average for 1951-52 to 1960-61)			
90.1	12.6	9.9	1.4	14.0
		(as now proposed)		
79.1	15.1	20.9	4.0	19.1

* *figures given in Annexure I are some what higher than those given in the Madras P.W.D. Administration Reports.*

(b) **Are there any rules for regulating crop pattern ?** No

14. Delta at canal head

Abi : June to December
Rabi : January to May

Delta (feet)		
Abi	*Rabi*	*Overall*
(average for 1941-42 to 1950-51)		
Not available		
(average for 1951-52 to 1960-61)		
5.3	6.4	5.4
(as now proposed)		
5.2	1.5	4.4

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

One tank, having an Ayacut of 1,070 acres, is merged with this system

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply data not available. The supplies avaliable at site of diversion are stated to be sufficient for the irrigation requirements

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Nil

21. Financial return of the scheme

1956-57 — 8.30 percent
1957-58 — 8.35 ,,
1958-59 — 9.70 ,,
1959-60 — 9.60 ,,
1960-61 — 8.10 ,,

22. Main features and purpose of the scheme

Paddy cultivation of about 13,000 acres

23. Special features of the scheme

New areas have been added to the scheme since 1951

MUNIYERU PROJECT

Annexure I

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*		
	Abi	*Rabi*	*Grand Total*
	Paddy	Groundnut	
1941-42	10,800	—	**10,800**
42-43	10,800	—	**10,800**
43-44	10,800	—	**10,800**
44-45	10,800	—	**10,800**
45-46	10,800	—	**10,800**
1946-47	10,800	—	**10,800**
47-48	10,800	—	**10,800**
48-49	10,800	—	**10,800**
49-50	10,800	—	**10,800**
50-51	11,300	—	**11,300**
1951-52	12,300	—	**12,300**
52-53	12,800	—	**12,800**
53-54	10,355	17	**10,372**
54-55	12,183	36	**12,219**
55-56	12,308	754	**13,062**
1956-57	12,800	1,500	**14,300**
57-58	13,000	2,000	**15,000**
58-59	13,400	3,000	**16,400**
59-60	13,600	4,000	**17,600**
60-61	13,600	2,500	**16,100**
Average for the 10 years from 1941-42 to 1950-51	**10,850**	—	**10,850**
Average for the 10 years from 1951-52 to 1960-61	**12,634**	**1,381**	**14,015**

WYRA PROJECT

7A-K.12-A.7

1. **Name of State** Andhra Pradesh (formerly in Hyderabad)
2. **Scope of the scheme or system**

   Irrigation scheme; flow-cum-storage; Ayacut 17,400 acres
3. **Source of supply**

   Wyra near Khammamet/Munair/**Krishna**

   Utilisation upstream :

   existing : minor tanks

   proposed : nil
4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	2.10 T.M.C.
Dead storage	0.38 ,,
Carry-over	Nil
Annual reservoir losses	Maximum 1.03 T.M.C. Average 0.88 ,,
Filling period	June to October
Depletion period	June to November
Catchment area	274 square miles
Area submerged	4,736 acres
Full reservoir level	R.L. 314
Minimum pond level	R.L. 295

(as during 1951-52 to 1960 61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950 51)

Dam : composite, 5,800 feet long, 61 feet high

Spillway : weir, 1,320 feet long, capacity 60,152 cusecs

Outlets : right flank, 3 vents, 5 feet × 6 feet each, total capacity 210 cusecs
left flank, 2 vents, 4 feet × 5 feet each, total capacity 90 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Right Flank Canal (contour); 15 miles long; one seasonal ; unlined ; authorised capacity **210 cusecs**

Left Flank Canal (contour); 4 miles long; one seasonal ; unlined ; authorised capacity **89.5 cusecs**

(as during 1950-51 to 1960-61)

No change

(as now proposed)

No change

7. The year from which scheme is in operation **1930**

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

District Khammam

Item	*Right Flank Canal*	*Left Flank Canal*	*Total*
	.........thousand acres.........		
	(as during 1941-42 to 1950-51)		
G.C.A.	12.8	5.8	**18.6**
C.C.A.	12.4	5.0	**17.4**
Ayacut	12.4	5.0	**17.4**
	(as during 1951-52 to 1960-61)		
	No change		
	(as now proposed)		
	No change		

9. Area irrigated annually and intensity of irrigation, both canals *(See Annexure I)*

Area irrigated annually			*Intensity of irrigation on Ayacut*
Maximum	*Minimum*	*Average*	*Abi*
...........thousand acres......			*......percentage......*
	(as during 1941-42 to 1950-51)		
14.6	3.2	10.9	62.6
	(as during 1951-52 to 1960-61)		
14.8	1.1	11.3	64.9
		(as now proposed)	
		17.4	100.0

10. Normal rainfall and river supply diverted (both canals)

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1943-44 to 1950-51			*As during 1951-52 to 1960-61*			*As proposed*	*As during 1943-44 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......*inches*...........			*thousand million cubic feet (T.M.C.)*									
June	4.3	10.7	2.2	0.03	0.01	0.01	Nil	Nil	0.01	0.13	0.01	0.01	0.23
July	9.0	15.5	3.2	0.43	Nil	0.17	0.45	0.09	0.22	0.49	0.21	0.27	0.61
August	7.6	13.4	4.3	1.02	0.10	0.65	0.97	0.03	0.65	0.73	0.81	0.81	0.91
September	6.0	13.1	2.5	0.74	0.11	0.50	0.88	0.09	0.51	0.77	0.64	0.79	0.99
October	4.6	11.4	0.7	0.89	0.10	0.59	0.91	0.10	0.59	0.78	0·74	0.86	0.97
November	1.6	5.7	Nil	0.67	0.08	0.54	0.67	0.10	0.57	0.12	0.69	0.73	0.[illegible]5
December	0.2	0.6	,,	0.02	Nil	0.02	Nil	0.02	0.02	Nil	0.02	0.02	—
January	Nil	0.3	,,	Nil	0.07	0.01	,,	Nil	0.01	,,	0.01	0.01	—
February	0.8	1.6	,,	,,	0.08	0.01	,,	,,	0.01	,,	0.01	0.01	—
March	0.6	1.6	,,	,,	0.08	0.01	,,	,,	0.01	,,	0.01	0.01	—
April	1.3	3.3	,,	,,	0.03	0.01	,,	,,	0.02	,,	0.01	0.03	—
May	2.2	5.6	0.2	,,	0.02	Nil	,,	,,	0.02	,,	—	0.02	—
Total	**38.2**			**3.80**	**0.73**	**2.52**	**3.88**	**0.48**	**2.84**	**3.07**			

11. Not available

12. (a) Characteristics of soils in the commanded area Light and heavy clay loams

(b) Not available

13. Corp pattern (*See Annexure 1*)

Abi — *Percentage of principal crops* — *Paddy*	*Total cropped Area (T. acres)*
(average for 1941-42 to 1950-51)	
100.0	10.9
(average for 1951-52 to 1960-61)	
100.0	11.3
(as now proposed)	
100.0	17.4

(b) Are there any rules for regulating crop pattern ? No

14. Dalta at canal head

Overall Delta
(feet)

(average for 1941-42 to 1950-51)
5.2
(average for 1951-52 to 1960-61)
5.6
(as now proposed)
4.1

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

One tank, having an Ayacut of 206 acres, not included in the Ayacut

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply data not available. The inflow available is stated to be sufficient for irrigation requirements

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any requir for these aspects ; financial returns

Nil

21. Financial return of the scheme

1954-55	–	3.46	percent
1956-57	„	2.81	„
1957-58	„	6.52	„
1958-59	„	6.39	„

22. Main features and purpose of the scheme

Paddy cultivation in about 14,000 acres

WYRA PROJECT

(Annexure I)

STATEMENT SHOWING AREA IRRIGATED BY CROPS (both canals)

Year	*Area irrigated by crops (acres)*
	Abi
	Paddy
1941-42	3,353
42-43	14,600
43-44	9,000
44-45	3,220
45-46	11,951
46-47	11,500
47-48	13,500
48-49	13,560
49-50	14,000
50-51	14,000
1951-52	14,300
52-53	1,100
53-54	14,000
54-55	14,000
55-56	1,400
56-57	14,792
57-58	11,707
58-59	13,804
59-60	13,682
60-61	13,682
Average for the 10 years from 1941-42 to 1950-51	10,868
Average for the 10 year from 1951-52 to 1960-61	11,247

KRISHNA CANAL

8A-K.1-M.1

1. **Name of State** Maharashtra (formerly in Bombay)

2. **Scope of the scheme or system**

Irrigation scheme; based on flow; C.C.A. 33,400 acres

3. **Source of supply**

Krishna at Khodshi

Utilisation upstream:

existing : Urmodi Bandhara, about 0.8 T.M.C.
Tarali Bandhara, about 0.8 T.M.C.

proposed : see projects **16C.3-K.1-M.1** to **19C.3-K.1-M.6**

4. Not applicable

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Weir : 1,200 feet long, catchment area 1,322 square miles, capacity 84,000 cusecs

Head regulator : 2 gates, 5 feet × 5 feet each
2 gates, 6 feet × 5 feet each
2 gates, 4 feet × 5 feet each

Scouring sluices : 2 vents, 4 feet × 5 feet each

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. **Description of the canal**

(as during 1941-42 to 1950-51)

Krishna Canal (contour); left bank; 35 miles long; perennial; unlined; capacity **110 cusecs**

(as during 1951-52 to 1960-61)

No change

(Canal being remodelled to a capacity of 525 cusecs at head. It is also being extended by 6 miles; effective capacity for the decade **110 cusecs**)

(as now proposed)

See item 23 below

7. **The year from which the scheme is in operation** 1868

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

Item	*Names of districts*		
	Satara	*Sangli*	*Total*
	……………………*thousand acres*………………		
	(as during 1941-42 to 1950-51)		
G.C.A.	11.2	17.1	28.3
C.C.A.	9.2	16.3	25.5
	(as during 1951-52 to 1960-61)		
G.C.A.	11.2	25.7	36.9
C.C.A.	9.2	24.2	33.4
	(as now proposed) See item 23 below		

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation*					
Maximum	*Minimum*	*Average*	*Perennial*	*Two seasonal*	*Kharif*	*Rabi*	*Hot weather*	*Total*
………*thousand acres*………			……………*percentage*……………………………					
			(as during 1941-42 to 1950-51)					
7.5	3.3	5.8	1.3	4.3	6.1	9.6	1.5	**22.8**
			(as during 1951-52 to 1960-61)					
10.5	0.5	6.2	0.8	3.7	4.9	8.3	0.9	**18.6**
			(as now proposed) See item 23 below					

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor	
				As during 1948-49 to 1949-50*			As during 1951-52 to 1960-61			As proposed	As during 1948-49 to 1950-51	As during 1951-52 to 1960-61
	Normal	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Average			
1	2	3	4	5	6	7	8	9	10	11	12	13
	........inches.........			..............thousand million cubic feet (T.M.C.)								
June	5.0	9.5	0.3	0.08	0.14	0.11	0.43	Nil	0.09		0.39	0.32
July	7.5	14.9	0.7	0.11	0.11	0.11	0.17	,,	0.05	See item 23 below	0.37	0.20
August	4.0	12.7	0.5	0.12	0.14	0.13	0.27	,,	0.09		0.44	0.31
September	3.8	11.3	0.2	0.22	0.16	0.19	0.11	0.02	0.14		0.67	0.49
October	3.5	11.4	0.3	0.08	0.12	0.10	0.29	0.02	0.14		0.34	0.47
November	1.3	8.6	Nil	0.14	0.15	0.14	0.25	0.02	0.14		0.49	0.49
December	0.3	4.1	,,	0.18	0.15	0.16	0.32	0.02	0.16		0.54	0.54
January	0.2	2.8	,,	0.25	0.15	0.20	0.36	0.04	0.17		0.68	0.58
February	Nil	0.7	,,	0.14	0.08	0.11	0.15	0.04	0.11		0.41	0.41
March	0.2	2.5	,,	0.12	0.07	0.10	0.21	Nil	0.10		0.34	0.34
April	1.0	4.1	,,	0.05	0.04	0.05	0.31	,,	0.10		0.18	0.35
May	1.6	6.2	,,	0.05	0.04	0.04	0.15	,,	0.09		0.14	0.31
Total	**28.4**			**1.55**	**1.35**	**1.44**	**3.02**	**0.16**	**1.39**			

** The year 1950-51 has been ignored, as the weir was damaged due to floods in July 1950 and the canal remained closed from 13th July to 3rd November.*

11. Not available

12. (a) Characteristics of soils in the commanded area

Scientific soil surveys have not been carried out. Soil classification is sandy to sandy loam, silty loam to clayey loam and loam clayey loam to clay in the proportion of 30,30 and 40 respectively.

(b) Not available

13. Crop pattern

Perennial			Two seasonal			Kharif			Continued below
Percentage of principal crops		Total area (T. acres)	Percentage of principal crops		Total area (T. acres)	Percentage of principal crops		Total area (T. acres)	
Sugarcane	Others		Cotton	Others		Paddy	Others		
(average for 1941-42 to 1950-51)									
5.1	0.1	**0.3**	—	19.0	**1.1**	18.3	9.3	**1.6**	
(average for 1951-52 to 1960-61)									
4.7	0.1	**0.3**	0.1	19.3	**1.2**	20.1	5.7	**1.6**	

Continued from above	Rabi			Hot weather		Total cropped area (T.acres)
	Percentage of principal crops		Total area (T. acres)	Percentage of principal crops	Total area (T. acres)	
	Jowar	Wheat				
	(average for 1941-42 to 1951-52)					
	21.3	20.0	**2.4**	6.9	**0.4**	**5.8**
	(average for 1951-52 to 1960-61)					
	18.4	26.8	**2.8**	4.8	**0.3**	**6.2**
	(as now proposed)					
	See item 23 below					

(b) Are there any rules for regulating crop pattern ? No

14. Delta at canal head

Overall Delta (feet)
(average for 1948-49 to 1949-50)
5.7
(average for 1951-52 to 1960-61)
5.1
(as now proposed)
See item 23 below

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Nil

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Approximately 400 wells in the commanded area, each irrigating about 2 acres of seasonal crops ; some wells also supplement canal supplies

16. Quantum of river supplies available in relation to withdrawals, as of March 1951

Supplies diverted are only a small fraction of the total flow available and there is appreciable escapage in all years during monsoon months June to October. In other months escapage varies from 0.3 T.M.C. to 2.0 T.M.C.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

None

21. Financial return of the scheme 1.52 percent in 1955-56

22. Main features and purpose of the scheme

Irrigation of 6,000 acres of mixed cultivation

23. Special features of the scheme

It is proposed to merge this canal in the Koyna Irrigation Scheme-Stage I, **6C.2-K.1-M.1**

NEHR TANK

9A-K.1-M.2

1. **Name of State** Maharashtra (formerly in Bombay)
2. **Scope of the scheme or system**

   Irrigation scheme ; flow-cum-storage ; C.C.A. 10,700 acres
3. **Source of supply**

   Storage on Yerala near Nehr/**Krishna** ; pick-up weir at Khatgun 7 miles downstream

   Utilisation upstream :

   existing : nil

   proposed : nil
4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	0.40 T.M.C.
Dead storage	0.10 „
Carry-over	Nil
Annual reservoir losses	0.06 T.M.C.
Filling period	15th June to end of October
Depletion period	15th June to 14th February
Catchment area	60 square miles
Area submerged	800 acres
Full reservoir level	R.L. 2,666
Minimum pond level	R.L. 2,634

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam on Yerala at Nehr :	earthen, 74 feet high
Spillway :	700 feet long, capacity 38,720 cusecs
Outlet :	4 feet diameter for Nehr Canal
Pick up weir at Khatgun :	length 630 feet
No undersluices	
Head regulators :	right bank and left bank, each 6 feet × 4 feet

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Nehr Canal (contour) ; right bank ; 9 miles long ; two-seasonal ; unlined ; capacity **74 cusecs**
Yerala Right Bank Canal (contour); 15.0 miles long ; two-seasonal; unlined; capacity **42 cusecs**
Yerela Left Bank Canal (contour) ; 8.6 miles long ; two-seasonal; unlined; capacity **42 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1881-82

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

District Satara

	Nehr Canal	*Yerala Right Bank Canal*	*Yerala Left Bank Canal*	*Total*
	thousand acres			
	(as during 1941-42 to 1950-51)			
G.C.A.	3.0	5.4	2.8	**11.2**
C.C.A.	2.9	5.1	2.7	**10.7**
	(as during 1951-52 to 1960-61)			
	No change			
	(as now proposed)			
	No change			

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation*		
Maximum	*Minimum*	*Average*	*Kharif*	*Rabi*	*Total*
thousand acres			*percentage*		
(as during 1941-42 to 1950-51)					
4.7	2.3	4.0	4.0	33.4	**37.4**
(as during 1951-52 to 1960-61)					
6.1	4.2	5.1	9.3	38.4	**47.7**
(as now proposed)					
—	—	6.5	15.0	45.7	**60.7**

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted*							Capacity factor		
				As during 1941-42 to 1950-51			As during 1951-52 to 1960-61			As proposed	As during 1941-42 to 1950-51	As during 1951-52 to 1960-61	As proposed
	Normal	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......inches......	..		.........thousand million cubic feet (T.M.C.)...									
June	4.0	7.9	0.1	0.01	Nil	Nil							
July	4.0	15.4	1.5	0.01	,,	,,	(15th June to 14th October)						
August	3.0	11.3	0.7	0.01	,,	0.01	0.10	0.02	0.05	0.08	0.01	0.04	0.06
September	5.0	14.1	Nil	Nil	,,	0.01							
October	4.0	18.0	,,	,,	,,	Nil							
November	1.0	15.3	,,	0.06	,,	0.02	(15th October to 14th February)						
December	0.3	1.4	,,	0.10	,,	0.02	0.36	0.17	0.27	0.32	0.03	0.16	0.19
January	0.2	0.3	,,	0.09	,,	0.01							
February	0.1	0.6	,,	0.03	,,	Nil							
March	0.2	3.6	,,	0.01	,,	,,							
April	0.6	2.2	,,	0.01	,,	,,	(15th February to 14th June)						
May	1.3	3.8	,,	0.01	,,	,,	Nil	Nil	Nil	Nil	—	—	—
Total	**23.7**			**0.34**	Nil	**0.07**	**0.46**	**0.19**	**0.32**	**0.40**			

*Data for ten-daily withdrawals not supplied

11. Not available

12. (a) Characteristics of soils in the commanded area

Detailed soil surveys not done. The soils available are sandy to sandy loam, silty loam to clayey loam and clayey loam to clay in the proportion of 35, 35 and 30 respectively.

The depth of soil is 18 inches and more

(b) Not available

13. (a) **Crop pattern**

Kharif			*Rabi*				*Total cropped area (T. acres)*
Percentage of principal crops		*Total area*	*Percentage of principal crops*			*Total area*	
Paddy	*Others*	*(T. acres)*	*Wheat*	*Jowar*	*Others*	*(T. acres)*	
			(average for 1941-42 to 1950-51)				
2.0	8.0	**0.4**	11.4	56.9	21.7	**3.6**	**4.0**
			(average for 1951-52 to 1960-61)				
2.6	17.0	**1.0**	12.3	45.2	22.9	**4.1**	**5.1**
			(as now proposed)				
—	24.6	**1.6**	—	—	75.4	**4.9**	**6.5**

(b) **Are there any rules for regulating crop pattern ?**

Sanctions are regulated so as to conform to the proposed crop pattern as far as possible

14. **Delta at canal head**

Kharif : 15th June to 14th October
Rabi : 15th October to 14th February

Delta (feet)		
Kharif	*Rabi*	*Overall*
	(average for 1941-42 to 1950-51)	
0.9	0.3	0.4
	(average for 1951-52 to 1960-61)	
1.2	1.5	1.4
	(as now proposed)	
1.1	1.5	1.4

15. (a) **Number of tanks in operation in the irrigated area and the area irrigated therefrom**

Nil

(b) **Number of wells in operation in the irrigated area and the area irrigated therefrom**

About 30 wells, irrigating 125 acres ; area included in the C.C.A.

16. **Quantum of river supplies available in relation to withdrawals, as of March, 1951**

River supply data not available, but supplies are stated to be adequate for irrigation requirements ; no dependable surplus

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Nil

21. Financial return of the scheme — 0.37 percent in 1955-56

22. Main features and purpose of the scheme — 6,000 acres of mixed crops

TATA HYDEL POWER SUPPLY SCHEME

1. **Name of State** Maharashtra (formerly in Bombay)
2. **Scope of the scheme or system**

   Hydro-electric scheme ; 5 units of 12,000 kW. each and 1 unit of 10,000 kW.
3. **Source of supply**

   Sub-tributaries of Indrayani/Bhima/**Krishna**

   Utilisation upstream : nil
4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

	Shiriwata	Walvan	Lonawala
Live storage in *T.M.C.*	6.6	2.6	0.4
Carry-over in *T.M.C.*	0.7	0.2	Nil
Annual reservoir losses	about 0.7 T.M.C. for the three lakes		
Filling period	June to September generally		
Depletion period	June to May	June to May	June to October
Catchment area (*square miles*)	11.0	5.5	5.4
Area submerged (*acres*)	3,200	1,500	1,000
Full reservoir level R.L.	2,155	2,084	2,052
Dead storage level R.L.	2,084	2,032	2,034

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

	Shiriwata	Walvan	Lonawala
Dam :	masonry, 126 feet high.	masonry, 86.5 feet high.	masonry, 52 feet high.
Spillway :	1,000 feet long	58 arched openings of 12 feet×2 feet	35 arched openings of 15 feet×2 feet
Outlets :	4 stoney sluices of 5 feet×5 feet	5 stoney sluices of 6 feet×6 feet	4 stoney sluices of 6 feet×6 feet

Penstocks at Khopoli : 2 of 82.5 inches reducing to 72 inches, capacity 860 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Not applicable

7. The year from which the scheme is in operation 1918

8. to 16. Not applicable

POWER ASPECTS

17. River supplies diverted and operation head

Month	*As during 1943-44 to 1949-50*		*As during 1952-53 to 1960-61*		*As proposed*
	Mean operation head (feet)	*Mean supply passing through turbines (cusecs)*	*Mean operation head (feet)*	*Mean supply passing through turbines (cusecs)*	
June	1,721	238	1,721	277	No change
July	"	319	"	333	
August	"	292	"	307	
September	"	236	"	241	
October	"	221	"	177	
November	"	202	"	201	
December	"	183	"	173	
January	"	199	"	156	
February	"	201	"	178	
March	"	200	"	184	
April	"	210	"	235	
May	"	210	"	274	
Total		**7.13** T.M.C.		**7.21** T.M.C.	

18. Disposal of tail-race waters

About 10 percent of the tail-race waters is diverted at present for irrigation and for supply of water to industries ; the rest escapes unused to the Arabian sea. It is proposed to utilise it fully for industrial purposes.

19. Quatum of river supplies available in relation to withdrawals, as of March,1951

All supplies available in a normal year are being utilised fully ; there is no dependable escapage.

GENERAL

20. **Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns**

Nil

21. Not available

22. **Main features and purpose of the scheme**

The scheme generates 48,000 kW. of firm power for supply to industrial area of the Bombay-Poona region and for railway traction

23. **Special features of the scheme**

About 7.2 T.M.C. of water is being diverted outside the Krishna drainage basin

ANDHRA VALLEY POWER SUPPLY SCHEME

11A-K.5-M.4

1. **Name of State** Maharashtra (formerly in Bombay)

2. **Scope of the scheme or system**

Hydro-electric scheme ; based on storage ; 6 units of 12,000 kW. each

3. **Source of supply**

Andhra sub-tributary near Thakerwadi/Indrayani/Bhima/**Krishna**

Utilisation upstream : nil

4. **Description of the dam and reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	12.9 T.M.C.
Carry-over	1.1 ,,
Annual reservoir losses	0.7 ,,
Filling period	June to September
Depletion period	June to May
Catchment area	48 square miles
Area submerged	7,400 acres
Full reservoir level	R.L. 2,190
Dead storage level	R.L. 2,120

Dam : masonry, 1,875 feet long, including spillway

Spillway : open waste weir, 557 feet long

Outlets : one main and one emergency sluice, stoney type, each 10 feet × 10 feet

Penstocks : 6 of 42 inches reducing to 38 inches, capacity 760 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5.—6. Not applicable

7. **The year from which the scheme is in operation** 1922

8. to 16. Not applicable

POWER ASPECTS

17. River supplies diverted and operation head

Month	*As during 1947-48 to 1950-51*		*As during 1951-52 to 1960-61*		*As proposed*
	Operation head (feet)	*Mean supply passing through turbines (cusecs)*	*Operation head (feet)*	*Mean supply passing through turbines (cusecs)*	
June	1,709	333	1,699	328	
July	1,716	290	1,711	184	
August	1,728	192	1,727	176	
September	1,734	196	1,734	243	
October	1,735	240	1,734	336	
November	1,733	268	1,730	323	
December	1,731	256	1,727	311	No change
January	1,728	288	1,723	313	
February	1,724	345	1,719	321	
March	1,719	371	1,715	312	
April	1,714	344	1,709	360	
May	1,709	328	1,703	356	
Total		**9.06 T.M.C.**		**9.36 T.M.C.**	

18. Disposal of tail-race waters

About 40 percent of tail-race waters are being diverted for water supply to Ambarnath factories, Kalyan town and industries settled on bank of Ulhas river. In addition, irrigation of 4,000 acres is done on Raja Nalla scheme.

Plans are under consideration to utilise the presently un-used tail-race waters for industrial purposes

19. Quatum of river supplies available in relation to withdrawals, as of March, 1951

All supplies available in a normal year are fully utilised

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Industrial use for tail-race waters

21. Not available

22. Main features and purpose of the scheme

The scheme generates 48,000 kW. of firm electric power for supply to industrial areas of Bombay region and for railway traction

23. Special features of the scheme

About 9.4 T.M.C. of water is being diverted outside the Krishna drainage basin

TATA POWER SCHEME (MULSHI DAM)

12A-K.5-M.5

1. **Name of State** Maharashtra (formerly in Bombay)

2. **Scope of the scheme or system**

Hydro-electric scheme ; 6 units of 22,000 kW. each

3. **Source of supply**

Mula at Mulshi/Mula-Mutha/Bhima/**Krishna**

Utilisation upstream : nil

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	18.5 T.M.C.
Carry-over	2.2 ,,
Annual reservoir losses	1.0 ,,
Filling period	June to September generally
Depletion period	June to May
Catchment area	95.6 square miles
Area submerged	10,000 acres
Full reservoir level	R.L. 1,989
Dead storage level	R.L. 1,936

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam :	masonry, maximum height 166 feet
Spillway :	1,503 feet long, fitted with 36 automatic gates, each 40 feet x 5 feet 6 inches, total capacity 68,477 cusecs
Outlets :	head race channel 8 miles upstream of the dam with 3 cast iron-gates, 8 feet 6 inches x 10 feet each
Penstocks :	six of 58 inches reducing to 51 inches, capacity 1,500 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Not applicable

7. **The year from which the scheme is in operation** 1929-30

8. **to 16.** Not applicable

POWER ASPECTS

17. River supplies diverted and operation head

Month	As during 1941-42 to 1950-51		As during 1951-52 to 1960-61		As proposed
	Range of operation head (feet)	Mean supply passing through turbines (cusecs)	Range of operation head (feet)	Mean supply passing through turbines (cusecs)	
June	1,618	647	1,613	669	No change
July	1,636	696	1,632	931	
August	1,654	734	1,655	1,020	
September	1,657	746	1,659	1,017	
October	1,655	710	1,655	844	
November	1,651	707	1,651	821	
December	1,647	706	1,645	830	
January	1,641	686	1,640	802	
February	1,636	681	1,633	815	
March	1,631	632	1,628	742	
April	1,625	676	1,622	705	
May	1,619	666	1,615	698	
Total		21.77 T.M.C.		**26.03** T.M.C.	

18. Disposal of tail-race waters

The tail-race waters are not utilised at present. It is proposed to utilise them for power generation, water supply and irrigation of about 20,000 acres in the Kaland Kundalika Valleys

19. Quantum of river supplies available in relation to withdrawals, as of March, 1951

During 31 years, there was no escapage below Mulshi Dam in two years ; in the other 29 there was escapage during June to September, the maximum escapage being 51 T.M.C. and the average (for 31 years) 17.4 T.M.C.

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Nil

21. Not available

22. Main features and purpose of the scheme

The scheme generates 84,000 kW. for supply to industrial areas in Bombay-Poona region and for railway traction

23. Special features of the scheme

About 21.8 T.M.C. of water is being diverted outside the Krishna basin

MUTHA CANALS

13A-K.5-M.6

(INCLUDING MATOBA AND KHAMGAON TANKS)

1. **Name of State** Maharashtra (formerly in Bombay)
2. **Scope of the scheme or system**

   Irrigation and water-supply to Poona City ; flow-cum storage ; C.C.A. 50,000 acres
3. **Source of supply**

   Mutha at Khadakwasla/Mula-Mutha/Bhima/**Krishna**
4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	3.1 T.M.C.
Dead storage	1.3 ,,
Carry-over	0.5 ,,
Annual reservoir losses	0.5 ,,
Filling period	15th June to end of September
Depletion period	15th June to 14th June of following year
Catchment area	196 square miles
Area submerged	3,680 acres
Full reservoir level	R.L. 1,911
Minimum pond level	R.L. 1,877

(as during 1951-52 to 1960-61)

No change

(as now proposed)

See item 23 below

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam : masonry, 4,827 feet long, 102.5 feet high

Spillway : left flank, 88 automatic gates of 10 feet 3 inches x 8 feet and 12 rolling gates of 10 feet 3 inches x 8 feet, total capacity 74,900 cusecs

Outlets : right flank, 10 vents 2 feet x 2 feet 6 inches each for the canal and 8 vents 2 feet x 2 feet 6 inches each, for the Khadakwasla Research Station ; left flank, 6 vents $2\frac{1}{2}$ feet diameter each

(as during 1951-52 to 1960-61)

No change

(as now proposed)

See item 23 below

6. Description of the canals

(as during 1941-42 to 1950-51)

Mutha Right Bank Canal (contour) ; 70 miles long ; unlined ; perennial for first 30 miles only ; authorised capacity **300 cusecs**

Mutha Left Bank Canal (contour) ; 18 miles long ; unlined ; perennial ; authorised capacity **20 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

See item 23 below

7. The year from which the scheme is in operation 1884-85

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise (both canals)

(as during 1941-42 to 1950-51)

G.C.A.	94,000 acres
C.C.A.	50,000 acres

(as during 1951-52 to 1960-61)

No change

(as now proposed)

See item 23 below

9. Area irrigated annually and intensity of irrigation *(See Annexure I)*

Area irrigated annually			*Intensity of irrigation in Ayacut*					
Maximum	*Minimum*	*Average*	*Perennial*	*Two seasonal*	*Kharif*	*Rabi*	*Hot weather*	*Total*
……*thousand acres*……			……*percentage*……					
(as during 1941-42 to 1950-51)								
22.6	14.8	18.1	2.7	1.7	21.6	7.2	3.1	**36.3**
(as during 1951-52 to 1960-61)								
15.9	7.7	11.5	1.5	0.8	12.6	6.6	1.6	**23.1**

(as now proposed)

See item 23 below

10. Normal rainfall and river supply diverted

Mutha Right Bank Canal (including water supply for Poona City)

Month	*Rainfall*			*River supply diverted*							*Capacity factor*	
				As during 1946-47 to 1950-51			*As during 1951-52 to 1960-61*			*As proposed*	*As during 1946-47 to 1950-51*	*As during 1951-52 to 1960-61*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*			
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*
	...inches...			*.........thousand million cubic feet (T.M.C.).........*								
June	3.5	14.6	Nil	0.29	0.20	0.22	0.23	0.21	0.25	See	0.28	0.32
July	4.0	16.8	1.0	0.75	0.49	0.54	0.71	0.65	0.72	item	0.67	0.90
August	2.5	11.6	0.6	0.62	0.73	0.70	0.90	0.75	0.77	23	0.87	0.96
September	4.0	12.4	0.1	0.56	0.46	0.58	0.83	0.51	0.65	below	0.75	0.84
October	3.0	14.8	0.1	0.45	0.39	0.39	0.44	0.44	0.39		0.49	0.49
November	1.2	8.2	Nil	0.18	0.27	0.25	0.38	0.22	0.28		0.32	0.35
December	0.2	3.2	,,	0.23	0.28	0.27	0.41	0.28	0.31		0.34	0.39
January	0.1	1.3	,,	0.26	0.22	0.26	0.29	0.26	0.29		0.34	0.36
February	0.1	1.2	,,	0.23	0.18	0.23	0.23	0.23	0.23		0.30	0.30
March	0.1	1.5	,,	0.30	0.19	0.22	0.22	0.24	0.23		0.27	0.29
April	0.5	2.9	,,	0.24	0.17	0.21	0.22	0.24	0.22		0.27	0.28
May	0.9	6.0	,,	0.29	0.19	0.22	0.24	0.22	0.23		0.27	0.27
Total	**20.1**			**4.40**	**3.77**	**4.09**	**5.10**	**4.25**	**4.57**			

10. Normal rainfall and river supply diverted

Mutha Left Bank Canal

Month	Rainfall			River supply diverted						As proposed	Capacity factor	
				As during 1946-47 to 1950-51			As during 1951-52 to 1960-61				As during 1946-47 to 1950-51	As during 1951-52 to 1960-61
	Normal	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Average			
1	2	3	4	5	6	7	8	9	10	11	12	13
	......*inches*............			...*thousand million cubic feet (T. M. C.)*...								
June	3.5	14.6	Nil	0.04	0.02	0.03	0.04	0.02	0.02	See item 23 below	0.58	0.39
July	4.0	16.8	1.0	0.04	0.01	0.03	0.05	0.02	0.02		0.56	0.37
August	2.5	11.6	0.6	0.03	0.02	0.03	0.03	0.01	0.02		0.56	0.37
September	4.0	12.4	0.1	0.03	0:02	0.03	0.03	0.03	0.02		0.58	0.39
October	3.0	14.8	0.1	0.05	0.02	0.03	0.02	0.03	0.03		0.56	0.56
November	1.2	8.2	Nil	0.04	0.04	0.04	0.05	0.04	0.04		0.77	0.77
December	0.2	3.2	,,	0 05	0.03	0.04	0.05	0.03	0.04		0.75	0.75
January	0.1	1.3	,,	0.04	0.04	0.03	0.05	0.02	0.03		0.56	0.56
February	0.1	1.2	,,	0.04	0.02	0.03	0.04	0.01	0.03		0.62	0.62
March	0.1	1.5	,,	0.04	0.02	0.03	0.04	0.02	0.03		0,56	0.56
April	0.5	2.9	,,	0.04	0.02	0,03	0.04	0.02	0.04		0·58	0.77
May	0.9	6.0	,,	0.05	0.02	0.03	0.04	0.02	0.03		0.56	0.56
Total	20.1			**0.49**	**0.28**	**0.38**	**0.48**	**0.27**	**0.35**			

11. Not available

12. (a) Characteristics of soils in the commanded area

Sandy loam to silty loam 35 percent ; silty loam to clayey loam 40 percent and clayey 25 percent ; depth of soil crust varies from 1 feet 6 inches to more than 20 feet.

(b) Not available

13. (a) **Crop pattern** (*See Annexure I*)

Perennial			*Two seasonal*			*Kharif*					*Continued below*
Percentage of principal crops		*Total area (T. acres)*	*Percentage of principal crops*		*Total area (T. acres)*	*Percentage of principal crops*				*Total area (T. acres)*	
Cane	*Others*		*Cotton*	*Others*		*Paddy*	*Vegetable*	*Bajri*	*Others*		
(average for 1941-42 to 1950-51)											
2.5	5.0	**1.4**	0.3	4.4	**0.3**	4.4	14.4	29.5	11.2	**10.8**	
(average for 1951-52 to 1960 61)											
1.2	5.3	**0.7**	0.9	2.7	**0.4**	8.8	13.0	26.3	6.3	**6.3**	

Continued from above	*Rabi*				*Hot weather*		
	Percentage of principal crops			*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	*Total cropped area (T. acres)*
	Wheat	*Jowar*	*Others*		*Fodder*		
	(as during 1941-42 to 1950-51)						
	4.7	14.4	0.7	**3.6**	8.5	**1.5**	**13.1**
	(as during 1951-52 to 1960-61)						
	3.6	25.0	—	**3.3**	6.9	**0.8**	**11.5**
	(as now proposed)						
	See item 23 below						

(b) **Are there any rules for regulating crop pattern ?** No

14. **Delta at canal head**

Not available, as supplies utilised for irrigation and Poona water supply are not recorded seperately.

15. (a) **Number of tanks in operation in the irrigated area and the area irrigated therefrom**

At the tail of Mutha Right Bank Canal, there are two tanks (i) At Matoba and (ii) At Khamgoan, which are merged with the canal system.

(b) **Number of wells in operation in the irrigated area and the area irrigated therefrom**

875 wells, capable of irrigating 2 to 3 acres each, area included in the C.C.A.

16. **Quantum of river supplies available in relation to withdrawals, as of March, 1951**

River supplies well in excess of requirements of the canals

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Data available for 1955-56	*Quantity*	*Income*
Water supply to Poona	1.32 T.M.C.	Rs. 4.65 lakhs
Water supply to industries and miscellaneous	0.16 T.M.C.	Rs. 0.54 lakhs
Total	**1.48 T.M.C.**	**Rs. 5.19 lakhs**

21. Financial return of the scheme

4.57 percent in 1955-56

22. Main features and purpose of the scheme

The scheme primarily provides water supply to Poona city and irrigates about 11,000 acres.

23. Special features of the scheme

The present scheme will be merged in Khadakwasla Project-Stage **I, 5C. 1-K.5-M.2**

MUTHA CANALS (INCLUDING

STATEMENT SHOWING

Year	Area irrigated by crops (acres)							
	Perennial			Two seasonal			Kharif	
	Sugarcane	Others	Total	Cotton	Others	Total	Vegetables	Paddy
1941-42	2,100	1,300	**3,400**	300	400	**700**	1,300	200
42-43	700	800	**1,500**	—	400	**400**	1,400	200
43-44	800	1,200	**2,000**	—	800	**800**	1,700	500
44-45	300	800	**1,100**	—	1,200	**1,200**	1,400	700
45-46	300	800	**1,100**	—	300	**300**	1,800	800
46-47	—	800	**800**	200	900	**1,100**	3,800	800
47-48	100	900	**1,000**	—	900	**900**	5,200	1,100
48-49	100	800	**900**	—	900	**900**	3,200	1,100
49-50	100	800	**900**	—	900	**900**	3,500	1,400
50-51	100	900	**1,000**	—	1,200	**1,200**	2,900	1,100
1951-52	100	700	**800**	—	500	**500**	2,700	1,800
52-53	100	900	**1,000**	100	500	**600**	1,400	1,600
53-54	—	1,200	**1,200**	—	500	**500**	1,600	1,300
54-55	300	1,100	**1,400**	—	500	**500**	1,600	1,100
55-56	500	800	**1,300**	200	400	**600**	1,200	500
56-57	200	600	**800**	200	—	**200**	1,400	800
57-58	—	100	**100**	200	400	**600**	1,300	—
58-59	—	100	**100**	100	200	**300**	1,100	900
59-60	200	300	**500**	100	100	**200**	1,200	1,200
60-61	Nil	300	**300**	100	Nil	**100**	1,500	900
Average for the 10 years from 1941-42 to 1950-51	460	910	**1,370**	50	790	**840**	2,620	790
Average for the 10 years from 1951-52 to 1960-61	140	610	**750**	100	310	**410**	1,500	1,010

MATOBA AND KHAMGAON TANK)

AREA IRRIGATED BY CROPS

Annexure I

Area irrigated by crops (acres)									
			Rabi				*Hot weather*	*Grand Total*
Bajri	*Others*	*Total*	*Wheat*	*Jowar*	*Others*	*Total*		
2,000	3,500	**7,000**	300	2,100	—	**2,400**	2,700	**16,200**
5,700	2,500	**9,800**	200	2,000	—	**2,200**	1,500	**15,400**
9,400	600	**12,200**	1,700	3,100	—	**4,800**	2,800	**22,600**
7,600	400	**10,100**	1,000	3,300	200	**4,500**	2,000	**18,900**
2 500	5,700	**10,800**	700	2,900	100	**3,700**	1,700	**17,600**
6,6 0	1,600	**12,800**	700	2,900	100	**3,700**	1,300	**19,700**
4,800	900	**12,000**	1,000	2,800	800	**4,600**	2,200	**20,700**
4,900	2,900	**12,100**	1,400	2,900	—	**4,300**	200	**18,400**
4,900	1,900	**11,700**	700	2,200	—	**2,900**	600	**17,000**
5,100	300	**9,400**	800	1,900	—	**2,700**	500	**14,800**
3.500	900	**8,900**	700	3,200	—	**3,900**	1,800	**15,900**
3,700	500	**7,200**	100	2,100	—	**2,200**	900	**11,900**
4,600	400	**7,900**	400	2,800	—	**3,200**	2,100	**14,900**
3,500	2,200	**8,400**	300	3,500	—	**3,800**	200	**14,300**
4,000	500	**6,200**	700	4,700	—	**5,400**	700	**14,200**
3,200	600	**6,000**	500	2,000	—	**2,500**	500	**10,000**
2,300	400	**4,000**	400	2,800	—	**3,200**	500	**8,400**
900	600	**3,500**	600	2,800	—	**3,400**	500	**7,800**
1,300	500	**4,200**	400	1,900	—	**2,300**	500	**7,700**
3,400	600	**6,400**	100	3,100	—	**3,200**	300	**10,300**
5,350	2,030	**10,790**	850	2,610	120	**3,580**	1,550	**18,130**
3,040	720	**6,270**	420	2,890	—	**3,310**	800	**11,540**

VISAPUR TANK

14A-K.5-M.7

1. **Name of State** Maharashtra (formerly in Bombay)
2. **Scope of the scheme or system**

   Tank irrigation scheme; C.C.A. 15,000 acres
3. **Source of supply**

   Hanga sub-tributary at Visapur/Ghod/Bhima/**Krishna**

   Utilisation upstream :

   existing : nil

   proposed : nil
4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage*	1.23 T.M.C. (since 1953)
Dead storage	0.26 T.M.C.
Carry-over	0.10 „
Annual reservoir losses	0.04 „
Filling period	15th June to end of September
Depletion period	15th June to 14th June of following year
Catchment area	159 squares miles
Area submerged	1,632 acres
Full reservoir level	R.L. 2,070
Minimum pond level	R.L. 2,040

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam :	earthen, 9,366 feet long, 84 feet high
Spillway :	masonry weir, 1,926 feet long, capacity 69,500 cusecs
Outlets:	two, 3 feet x 3 feet each

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

**Originally constructed for 1.64 T.M.C.*

6. **Description of the canal**

(as during 1941-42 to 1950-51)

Visapur Canal (contour); taking off on the left; 18 miles long; perennial; unlined; authorised capacity **90 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. **The year from which the scheme is in operation** 1927

IRRIGATION ASPECTS

8. **Gross commanded area and culturable commanded area, district-wise**

District Ahmadnagar

(as during 1941-42 to 1950-51)

G. C. A.	18,000 acres
C. C. A.	15,000 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. **Area irrigated annually and intensity of irrigation**

Area irrigated annually			*Intensity of irrigation*				
Maximum	*Minimum*	*Average*	*Perennial*	*Two seasonal*	*Kharif*	*Rabi*	*Total*
....*thousand acres*........			....................*percentage*..................................				
			(as during 1941-42 to 1950-51)				
6.9	2.0	5.2	2.7	—	4.0	28.0	34.7
			(as during 1951-52 to 1960-61)				
7.2	1.0	3.4	2.0	0.7	1.3	18.7	22.7

(as now proposed)

No change

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1949-50 to 1950-51			As during 1951-52 to 1960-61			As proposed	As during 1949-50 to 1950-51	As during 1951-52 to 1960-61	As proposed
	Normal	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......inches......			......thousand million cubic feet ((T.M.C.)									
June	4.0	6.1	1.1	0.08	0.08	0.08	0.05	0.03	0.03	No change	0.34	0.13	No change
July	3.0	5.8	0.3	0.10	0.08	0.09	0.04	0.06	0.04		0.37	0.17	
August	3.5	6.4	Nil	0.13	0.08	0.10	0.08	0.04	0.04		0.41	0.17	
September	6.5	13.0	1.1	0.03	0.02	0.02	0.05	Nil	0.02		0.09	0.09	
October	3.2	8.1	Nil	0.06	0.01	0.04	0.03	0.02	0.02		0.17	0.08	
November	1.2	6.0	,,	0.20	0.29	0.24	0.17	Nil	0.06		1.03	0.26	
December	0.2	2.3	,,	0.31	0.27	0.29	0.20	,,	0.09		1.20	0.37	
January	0.2	2.9	,,	0.13	0.14	0.14	0.08	,,	0.05		0.58	0.21	
February	0.1	Nil	,,	0.08	0.07	0.08	0.06	,,	0.03		0.37	0.14	
March	0.2	0.5	,,	0.08	0.09	0.08	0.05	,,	0.03		0.33	0.12	
April	0.5	1.0	,,	0.08	0.05	0.06	0.04	,,	0.04		0.26	0.17	
May	0.8	3.8	,,	0.09	0.06	0.08	0.04	,,	0.04		0.33	0.17	
Total	**23.4**			**1.37**	**1.24**	**1.30**	**0.89**	**0.15**	**0.49**				

11. — 12. Not available

13. (a) Crop pattern

Perennial		*Two seasonal*		*Kharif*			
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	*Percentage of principal crops*		*Total area (T. acres)*	*Continued below*
Sugarcane		*Cotton*		*Bajri*	*Others*		
(average for 1941-42 to 1950-51)							
7.7	0.4	—	—	9.6	1.9	0.6	
(average for 1951-52 to 1960-61)							
8.8	0.3	2.9	0.1	—	5.9	0.2	
(as now proposed)							
No change							

Continued from above	*Rabi*				*Total cropped area (T. acres)*
	Percentage of principal crops			*Total area (T.acres)*	
	Wheat	*Jowar*	*Gram*		
	(average for 1941-42 to 1950-51)				
	3.8	50.0	27.0	4.2	5.2
	(average for 1951-52 to 1960-61)				
	3.0	47.0	32.4	2.8	3.4
	(as now proposed)				
	No change				

(b) Are there any rules for regulating crop pattern? No

14. Delta at canal head

Overall Delta (feet)
(average for 1941-42 to 1950-51)
5.7
(average for 1951-52 to 1960-61)
3.3
(as now proposed)
No change

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Nil

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

251 wells in the commanded area, irrigating 354 acres under seasonal crops

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

The entire flow is utilised except in wet years. The details of escapage from 1948-49 to-date are given below

September	1949	7 days	0.45 T.M.C.
October	1956	31 days	3.49 „
November	1956	22 days	0.06 „
October	1958	30 days	0.52 „
October	1960	18 days	0.03 „

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

A small amount of water is utilised for water supply to the Visapur Jail and Beggars Home

21. Not available

22. Main features and purpose of the scheme

Irrigation of about 5,000 acres

NIRA CANALS

15A-K.5-M.8

1. **Name of State** Maharashtra (formerly in Bombay)
2. **Scope of the scheme or system**
   Multipurpose ; flow-cum-storage ; irrigation, C.C.A. 597,500 acres and power, 4 units of 1,000 kW. each
3. **Source of supply**
   Storage on Yelvandi at Bhatghar and weir on Nira at Vir/Bhima/**Krishna**
   Utilisation upstream : nil
4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Bhatghar storage

Live storage	24.2 T. M. C.
Carry-over	2.7 ,,
Annual reservoir losses	2.3 ,,
Filling period	15th June to end of September
Depletion period	October to 15th June or till outbreak of monsoon
Catchment area	128 square miles
Area submerged	9,363 acres
Full reservoir level	R.L. 2,045
Minimum pond level	R.L. 1,945
Dead storage level	R.L. 1,902
Dam :	5,333 feet long, 163 feet high
Spillway :	81 gates, 10 feet x 8 feet each, total capacity 56,500 cusecs
Irrigation outlets :	12 vents, each 8 feet x 4 feet and 8 vents, 4 feet dimeter each
Power outlets :	2 vents, 6.62 feet x 4 feet 1 vent, 8.75 feet diameter 1 vent, 5.50 feet diameter

(as during 1951-52 to 1960-61)

No change

(as now proposed)

See item 23 below

5. Description of the headworks

(as during 1941-42 to 1950-51)

Pick-up-weir : masonry, 2,273 feet long, capacity 131,000 cusecs, pondage 0.23 T. M. C.

Number and size of openings	Right Bank	Left Bank	Centre
Head regulators :	4 of 6 feet x 9 feet 3 inches	7 of 4 feet x 4 feet	
Scour sluices :	1 of 5 feet x 4 feet	2 of 5 feet x 6 feet	1 of 3 feet x 3 feet

(as during 1951-52 to 1960-61)

No change

(as now proposed)

See item 23 below

6. Description of the canals

(as during 1941-42 to 1950-51)

Nira Right Bank Canal(contour) ; 106.5 miles long ; perennial ; unlined ; authorised capacity **1,100 cusecs**

Nira Left Bank Canal (contour) ; 100 miles long ; perennial up to 76th mile, and seasonal beyond ; unlined ; authorised capacity **720 cusecs**

(as during 1951-52 to 1960-61)

Nira Right Bank Canal remodelled in 1953-54, from mile 0 to 50 to a capacity of **1,500 cusecs** to improve intensity of irrigation

(as now proposed)

See item 23 below

7. The year from which the scheme is in operation

1885-86 ; in 1925 the scope of the original project was increased

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

Item		*Names of districts*			*Total*
		Poona	*Satara*	*Sholapur*	
		......*thousand acres*......			
		(as during 1941-42 to 1950-51)			
G. C. A.	Nira Right Bank Canal	—	78.0	482.0	**560.0**
	Nira Left Bank Canal	201.8	—	—	**201.8**
C. C. A.	Nira Right Bank Canal	—	62.0	385.7	**447.7**
	Nira Left Bank Canal	149.8	—	—	**149.8**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

See item 23 below

9. Area irrigated annually and intensity of irrigation *(See Annexure I)*

	Area irrigated annually			*Intensity of irrigation*					
	Maximum	*Minimum*	*Average*	*Perennial*	*Two seasonal*	*Kharif*	*Rabi*	*Hot weather*	*Total*
	...*thousand acres*...			...*percentage*...					
	(as during 1941-42 to 1950-51)								
Nira Right Bank Canal	92.8	54.3	78.2	3.6	1.7	4.4	7.5	0.3	**17.5**
Nira Left Bank Canal	87.4	67.2	76.9	7.3	7.3	11.0	24.7	1.1	**51.4**
	(as during 1951-52 to 1960-61)								
Nira Right Bank Canal	91.4	65.7	78.0	3.4	2.2	4.2	7.4	0.2	**17.4**
Nira Left Bank Canal	79.3	69.6	75.1	6.3	8.1	11.6	23.4	0.8	**50.2**

(as now proposed)

See item 23 below

10. Normal rainfall and river supply diverted

(i) Nira Right Bank Canal

Month	Rainfall			River supply diverted							Capacity factor	
				As during 1943-44 to 1950-51			As during 1951-52 to 1960-61			As proposed	As during 1943-44 to 1950-51	As during 1951-52 to 1960-61
	Normal	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Average			
1	2	3	4	5	6	7	8	9	10	11	12	13
	......inches......			........thousand million cubic feet (T. M. C.)...								
June	2.8	8.9	0.3	1.43	1.04	1.24	1.23	0.97	1.19		0.43	0.31
July	2.5	8.8	0.1	2.20	1.45	1.81	2.58	1.60	2.08		0.62	0.52
August	1.8	9.5	Nil	1.71	1.52	1.95	3.25	2.51	2.35	See item 23 below	0.66	0.58
September	5.0	11.0	0.3	2.17	1.76	1.51	2.06	1.50	1.76		0.53	0.45
October	3.5	8.5	Nil	2.31	0.93	1.39	1.27	1.36	1.27		0.47	0.32
November	1.3	3.8	,,	2.60	0.94	1.83	2.40	1.95	1.86		0.64	0.48
December	0.2	3.2	,,	2.21	1.62	2.08	2.70	1.85	2.24		0.71	0.56
January	0.2	1.8	,,	1.87	1.87	1.66	1.88	0.96	1.40		0.56	0.35
February	0.1	0.8	,,	0.92	1.19	1.08	0.98	1.05	1.09		0.41	0.30
March	0.1	1·4	,,	0.81	1.33	1.08	1.01	0.80	1.05		0.37	0.26
April	0.5	1.6	,,	0.81	1.27	1.11	1.17	1.05	1.31		0.39	0.34
May	1.1	4.3	,,	1.01	1.38	1.24	1.09	0.77	1.29		0.42	0.32
Total	**19.1**			**20.05**	**16.30**	**17.98**	**21.62**	**16.37**	**18.89**			

10. Normal rainfall and river supply diverted

(ii) Nira Left Bank Canal

Month	*Rainfall*			*River supply diverted*							*Capacity factor*	
				As during 1943-44 to 1950-51			*As during 1951-52 to 1960-61*			*As pro-posed*	*As during 1943-44 to 1950-51*	*As during 1951-52 to 1960-61*
	Nor-mal	*Maxi-mum*	*Mini-mum*	*Maxi-mum*	*Mini-mum*	*Aver-age*	*Maxi-mum*	*Mini-mum*	*Aver-age*			
1	2	3	4	5	6	7	8	9	10	11	12	13
	......*inches*...			......*thousand million cubic feet (T. M. C.)*......								
June	3.0	8.9	0.3	1.36	0.67	0.97	0.88	0.92	0.84		0.52	0.45
July	2.5	8.6	0.1	1.57	1.23	1.53	1,51	1.51	1.57		0.79	0.81
August	1.8	9.3	Nil	1.77	1.64	1.55	1.77	1.58	1.55	See item 23 below	0.80	0.80
September	5.0	10.8	0.4	1.37	1.07	1.33	1.50	1.22	1.38		0.71	0.74
October	3.5	8.4	Nil	1.11	0.70	1.08	1.00	0.63	0.93		0.56	0.48
November	1.2	3.5	,,	1.63	1.73	1.48	1.38	1.61	1.30		0.79	0.70
December	0.2	3.0	,,	1.68	1.51	1.57	1.62	1.34	1.60		0.81	0.83
January	0.2	1.5	,,	1.45	1.28	1.33	1.20	0.92	1.07		0.69	0.55
February	0.1	0.6	,,	1.01	0.62	0.83	0.76	0.50	0.68		0.48	0.39
March	0.1	1.3	,,	0.85	0.71	0.76	0.63	0.62	0.72		0.39	0.37
April	0.4	1.2	,,	0.88	0.79	0.77	1.11	0.54	0.85		0.41	0.45
May	1.1	2.7	,,	0.96	0.89	0.85	0.95	0.68	0.91		0.44	0.47
Total	**19.1**			**15.65**	**12.84**	**14.05**	**14.31**	**12.07**	**13.40**			

11. Not available

12. (a) Characteristics of soils in the commanded area

Sandy to sandy loam 63 percent ; silty loam to clayey loam 28 percent ; clayey loam to clay 9 percent. Depth of soil crust exceeds 18 inches in more than 40 percent of area and is between 12 inches and 18 inches in the remaining area.

(b) Not available

13. (a) **Crop pattern** (*See Annexure I*)

	Perennial			*Two seasonal*			*Kharif*			
	Percentage of principal crops		*Total area (T. acres)*	*Percentage of principal crops*		*Total area (T. acres)*	*Percentage of principal crops*			*Total area (T. acres)*
	Sugar-cane	*Others*		*Cotton*	*Others*		*Paddy*	*Bajri*	*Others*	
(*average for 1941-42 to 1950-51*)										
Nira Right Bank canal	20.5	0.3	**16.3**	0.7	9.0	**7.5**	4.7	14.7	5.5	**19.5**
Nira Left Bank Canal	13.5	0.7	**10.9**	1.1	13.1	**10.9**	4.4	13.4	3.6	**16.5**
(*average for 1951-52 to 1960-61*)										
Nira Right Bank Canal	19.2	0.3	**15.2**	3.5	9.1	**9.8**	3.2	10.7	10.2	**18.9**
Nira Left Bank Canal	12.0	0.6	**9.5**	3.9	12.2	**12.1**	3.9	14.1	5.2	**17.3**

continued below

continued from above

	Rabi				*Hot weather*		*Total cropped area (T. acres)*
	Percentage of principal crops			*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
	Jowar	*Wheat*	*Others*		*Others*		
(*average for 1941-42 to 1950-51*)							
Nira Right Bank Canal	39.2	3.6	—	**33.5**	1.8	**1.4**	**78.2**
Nira Left Bank Canal	42.7	4.6	0.7	**36.9**	2.2	**1.7**	**76.9**
(*average for 1951-52 to 1960-61*)							
Nira Right Bank Canal	38.7	3.1	0.5	**33.0**	1.5	**1.1**	**78.0**
Nira Left Bank Canal	40.5	5.4	0.6	**35.0**	1.6	**1.2**	**75.1**

(*as now proposed*)
See item 23 below

(b) **Are there any rules for regulating crop pattern ?**

Crop pattern is regulated by contracts which specify extant of perennial and seasonal crops

14. Delta at canal head

Kharif : 15th June to 14th October
Rabi : 15th October to 14th February
Hot weather: 15th February to 14th June

Delta (feet)			
Kharif	*Rabi*	*Hot weather*	*Overall*
Left Bank Canal			
(*average for 1941-42 to 1950-51*)			
3.4	2.1	6.0	4.2
(*average for 1951-52 to 1960-61*)			
3.3	2.0	7.1	4.1
(*as now proposed*)			
No change			
Right Bank Canal			
(*average for 1941-42 to 1950-51*)			
3.5	2.7	5.9	5.3
(*average for 1951-52 to 1960-61*)			
3.9	2.5	6.6	5.6
(*as now proposed*)			
No change			

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Nil

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

(*as during 1941-42 to 1950-51*)
Not available
(*as during 1950-51 to 1960-61*)

Nira Left Bank Canal : 2,230 wells irrigating . Perennial 3,982 acres
Other perennial 283 acres
Seasonal 1,600 acres
Total 5,865 „ included in the C.C.A.

Nira Right Bank Canal: 1,735 wells irrigating Perennial 3,002 acres
Other perennial 177 acres
Seasonal 1,733 acres
Total 4,912 „ included in the C.C.A.

(*as now proposed*)
See item 23 below

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

During 18 years, for which data are available, the minimum river flow was 48.0 T. M. C. and the maximum 139.4 T. M. C., average being 93.1 T. M. C. Supplies are generally in excess of requirements of the canals.

POWER ASPECTS

17. River supplies diverted and operation head

Month	*As during 1941-42 to 1950-51*		*As during 1951-52 to 1960-61*	
	Range of operation head (feet)	*Supply passing through turbines (cusecs)*	*Range of operation head (feet)*	*Supply passing through turbines (cusecs)*
June	45 feet to 143 feet	14	45 feet to 143 feet	25
July		,,		,,
August		,,		,,
September		,,		,,
October		,,		,,
November		,,		,,
December		,,		,,
January		12		,,
February		,,		,,
March		,,		,,
April		,,		,,
May		,,		,,
Total		0.42 T. M. C.		0.79 T.M.C.

18. Disposal of tail-race waters

Tail-race waters from Bhatghar power house let down in Nira River are picked up at Vir weir for irrigation

19. Quantum of river supplies available in relation to withdrawals, as of March, 1951

See item 16 above

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Nil

21. Financial return of the scheme 3.3 per cent

22. Main features and purpose of the scheme

Irrigation of 155,000 acres and generation of 3,000 kW.

23. Special features of the scheme

These canals will be improved and extended by the Vir Dam Project, **6 C.1-K.5-M.3**

NIRA CANALS

STATEMENT SHOWING AREA IRRIGATED BY CROPS

ANNEXURE 1

NIRA

STATEMENT SHOWING

Nira Right Bank Canal

Year	*Area irrigated by crops (acres)*						
	Perennial			*Two seasonal*			
	Sugarcane	*Others*	*Total*	*Cotton*	*Others*	*Total*	*Paddy*
1941-42	18,408	160	**18,568**	4,970	1,066	**6,036**	112
42-43	17,619	241	**17,860**	165	5,274	**5,439**	350
43-44	15,797	211	**16,008**	101	6,193	**6,294**	924
44-45	18,216	173	**18,389**	19	9,501	**9,520**	3,987
45-46	16,560	270	**16,830**	17	7,991	**8,008**	9,776
46-47	14,463	208	**14,671**	8	8,641	**8,649**	8,432
47-48	14,075	252	**14,327**	70	8,776	**8,846**	3,836
48-49	14,147	165	**14,312**	8	7,407	**7,415**	3,922
49-50	14,941	237	**15,178**	21	8,772	**8,793**	3,343
50-51	16,426	268	**16,694**	2	6,437	**6,439**	2,537
1951-52	11,173	261	**11,434**	1,018	7,330	**8,348**	2,705
52-53	13,393	72	**13,465**	674	4,287	**4,961**	2,562
53 54	11,377	138	**11,515**	108	15,623	**15,731**	3,528
54-55	15,653	244	**15,897**	345	10,475	**10,820**	3,345
55-56	13,770	131	**13,901**	1,914	4,696	**6,610**	1,814
56 57	14,930	157	**15,087**	3,886	6,777	**10,663**	1,377
57-58	17,666	223	**17,889**	7,492	9,819	**17,311**	2,254
58-59	19,864	891	**20,755**	2,586	5,065	**7,651**	3,093
59-60	20,778	—	**20,778**	3,244	5,516	**8,760**	2,480
60-61	10,844	640	**11,484**	5,893	1,119	**7,012**	2,048
Average for the 10 years 1941-42 to 1950-51	**16,065**	**219**	16,284	**538**	**7,005**	7,544	**3,722**
Average for the 10 years 1951-52 to 1960-61	**14,945**	**276**	**15,221**	**2,716**	**7,071**	**9,787**	**2,521**

CANALS

AREA IRRIGATED BY CROPS *Annexure I*

Area irrigated by crops (acres)								
Kharif			*Rabi*				*Hot weather*	*Grand Total*
Bajri	*Others*	*Total*	*Jowar*	*Wheat*	*Others*	*Total*		
4,336	6,806	**11,254**	17,208	825	10	**18,043**	361	**54,262**
8,116	8,034	**16,500**	21,323	1,913	—	**23,235**	1,031	**64,066**
18,241	7,049	**26,214**	31,799	2,834	—	**34,633**	597	**83,746**
14,481	4,239	**22,707**	35,421	3,692	—	**39,113**	3,098	**92,827**
7,511	1,652	**18,939**	37,892	4,231	—	**42,123**	1,994	**87,894**
13,763	1,336	**23,531**	30,322	3,214	—	**33,536**	726	**81,113**
9,458	661	**13,955**	24,078	2,275	—	**26,353**	547	**64,028**
14,328	3,188	**21,438**	39,112	3,020	—	**42,132**	656	**85,953**
16,385	1,462	**21,190**	39,289	3,594	—	**42,883**	2,754	**90,798**
8,517	8,364	**19,418**	30,109	2,701	—	**32,810**	1,958	**77,329**
10,179	5,040	**17,924**	30,343	753	—	**31,036**	3,139	**71,941**
8,707	4,905	**16,174**	27,981	1,913	—	**29,894**	1,156	**65,650**
13,476	2,476	**19,480**	42,738	1,895	—	**44,633**	7	**91,366**
9,666	8,259	**21,270**	31,760	2,007	—	**33,767**	460	**82,214**
7,991	9,542	**19,347**	28,747	2,506	—	**31,253**	431	**71,542**
7,612	9,219	**18,203**	24,083	2,146	—	**26,229**	1,358	**71,545**
6,151	7,169	**15,574**	29,317	2,955	—	**32,272**	1,445	**84,491**
8,646	8,558	**20,297**	32,408	2,977	—	**35,385**	1,126	**85,214**
6,759	8,399	**17,638**	30,008	3,401	—	**33,409**	786	**81,371**
4,435	16,188	**22,671**	24,777	3,547	3,979	**32,303**	1,584	**75,034**
11,514	**4,279**	**19,515**	**30,655**	**2,830**		**33,486**	**1,373**	**78,202**
8,362	**7,975**	**18,858**	**30,216**	**2,410**	**398**	**33,024**	**1,149**	**78,039**

NIRA

STATEMENT SHOWING

Nira Left Bank Canal

Year	Area irrigated by crops (acres)							
	Perennial			*Two seasonal*			*Kharif*	
	Sugarcane	*Others*	*Total*	*Cotton*	*Others*	*Total*	*Paddy*	*Bajri*
1941-42	17,204	560	**17,764**	7,533	7,180	**14,713**	1,310	4,735
42-43	12,694	637	**13,331**	294	6,734	**7,028**	1,653	10,380
43-44	12,139	486	**12,625**	68	10,178	**10,246**	2,569	14,161
44-45	8,564	503	**9,067**	—	13,151	**13,151**	4,565	11,486
45-46	10,242	552	**10,794**	—	10,227	**10,227**	4,281	8,823
46-47	9,225	489	**9,714**	1	9,565	**9,566**	6,860	11,367
47-48	6,147	532	**6,679**	1	11,719	**11,720**	4,487	10,177
48-49	8,894	513	**9,407**	181	8,894	**9,075**	1,974	10,699
49-50	8,334	506	**8,840**	36	11,609	**11,645**	3,390	10,365
50-51	10,086	505	**10,591**	21	11,722	**11,743**	2,990	10,949
1951-52	9,117	743	**9,860**	796	12,298	**13,094**	1,203	11,116
52-53	6,645	467	**7,112**	461	9,717	**10,178**	3,368	8,615
53-54	6,364	480	**6,844**	173	11,055	**11,228**	2,291	13,383
54-55	6,505	466	**6,971**	469	10,650	**11,119**	3,484	10,766
55-56	9,029	456	**9,485**	5,051	9,364	**14,415**	2,755	9,599
56-57	9,706	435	**10,141**	4,191	13,121	**17,312**	3,111	11,137
57-58	11,887	416	**12,303**	5,585	7,033	**12,618**	2,936	7,919
58-59	12,201	374	**12,575**	3,655	6,335	**9,990**	3,030	11,705
59-60	12.326	360	**12,686**	3,192	9,097	**12,289**	3,949	11,024
60-61	6,319	349	**6,668**	5,640	3,282	**8,922**	2,807	10,715
Average for the 10 years from 1941-42 to 1950-51	**10,353**	**528**	**10,881**	**813**	**10,098**	**10,911**	**3,408**	**10,314**
Average for the 10 years from 1951-52 to 1960-61	**9,010**	**455**	**9,465**	**2,921**	**9,195**	**12,116**	**2,898**	**10,598**

CANALS

AREA IRRIGATED BY CROPS

Annexure I

Area irrigated by crops (acres)							
Kharif		*Rabi*				*Hot weather*	*Grand Total*
Others	*Total*	*Jowar*	*Wheat*	*Others*	*Total*		
5,193	**11,238**	26,934	3,137	5	**30,076**	803	**74,594**
3,130	**15,163**	32,328	3,832	23	**36,183**	1,645	**73,350**
4,043	**20,773**	32,026	4,196	—	**36,222**	1,069	**80,935**
2,831	**18,882**	33,904	3,427	5,060	**42,391**	3,946	**87,437**
1,240	**14,344**	37,483	3,774	—	**41,257**	1,813	**78,435**
2,462	**20,689**	28,899	4,571	—	**33,470**	1,122	**74,561**
1,512	**16,176**	30,640	508	15	**31,163**	1,494	**67,232**
2,199	**14,872**	33,983	3,272	10	**37,265**	1,696	**72,315**
2,454	**16,209**	34.620	4,660	—	**39,280**	2,570	**78,544**
2,434	**16,373**	37,781	4,340	—	**42,121**	1,032	**81,860**
3,006	**15,325**	32,493	2,864	18	**35,375**	2,615	**76,269**
2,994	**14,977**	39,977	3,435	—	**43,412**	1,163	**76,842**
3,172	**18,846**	35,333	3,526	—	**38,859**	1,074	**76,851**
3,057	**17,307**	34,093	4,329	—	**38,422**	180	**73,999**
3,583	**15,937**	28,629	3,498	—	**32,127**	1,342	**73,306**
4,713	**18,961**	27,764	4,788	—	**32,552**	1,059	**80,025**
2,540	**13,395**	27,315	3,241	—	**30,556**	1,784	**70,656**
4,286	**19,071**	26,605	5,185	—	**31,790**	951	**74,377**
6,980	**21,953**	25,893	5,423	—	**31,316**	1,053	**79,297**
4,469	**17,991**	26,754	4,187	4,610	**35,551**	500	**69,632**
2,750	**16,472**	**32,860**	**3,572**	**511**	**36,943**	**1,719**	**76,926**
3,880	**17,376**	**30,485**	**4,048**	**463**	**34,996**	**1,172**	**75,125**

ASHTI TANK

16A-K.5-M.9

1. **Name of State** Maharashtra (formerly in Bombay)
2. **Scope of the scheme or system**
   Irrigation scheme; flow-cum-storage ; C.C.A. 16,800 acres
3. **Source of supply**
   Ashti Nalla at Yeeti/Bhima/**Krishna**
4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	1.4 T.M.C.
Dead storage	0.6 ,,
Carry-over	0.3 ,,
Annual reservoir losses	0.4 ,,
Filling period	15th June to end of September
Depletion period	15th June to 14th June
Catchment area	92 square miles
Area submerged	2,880 acres
Full reservoir level	R.L. 1,550
Minimum pond level	R.L. 1,528

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam:	earthen, 12,709 feet long, 58 feet high
Spillway:	820 feet long, capacity 48,000 cusecs
Outlets:	left bank, 4 feet x 6 feet, capacity 30 cusecs right bank, three pipes, 12 feet diameter each, total capacity 10 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Ashti Right Canal (contour) ; 10 miles long; perennial ; unlined ; authorised capacity **10 cusecs**

Ashti Left Canal (contour) ; 11.5 miles long ; perennial ; unlined ; authorised capacity **10 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1881

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

(as during 1941-42 to 1950-51)

District Sholapur

G.C.A.	17,900 acres
C.C.A.	16,800 acres

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation*					
Maximum	*Minimum*	*Average*	*Perennial*	*Two seasonal*	*Kharif*	*Rabi*	*Hot weather*	*Total*
……*thousand acres*……			……*percentage*……					
(as during 1941-42 to 1950-51)								
6.5	2.3	4.7	0.1	4.6	2.1	20.1	0.8	**27.7**
(as during 1951-52 to 1960-61)								
6.0	1.1	3.5	0.1	2.6	2.6	14.9	0.6	**20.8**

(as now proposed)

No change

10. Normal rainfall and river supply diverted (both canals)

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1948-49 to 1950-51			As during 1951-52 to 1955-56			As proposed	As during 1948-49 to 1950-51	As during 1951-52 to 1955-56	As proposed
	Normal	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......inches........			......thousand million cubic feet ((T.M.C.)									
June	4.0	11.5	0.6	0.05	0.04	0.04	0.02	Nil	0.02		0.38	0.19	
July	3.2	8.3	0.2	0.05	0.01	0.02	0.05	,,	0.02		0.19	0.19	
August	3.5	20.9	0.2	0.03	0.01	0.02	0.04	0.01	0.02	No change	0.19	0.19	
September	6.5	21.2	0.2	0.01	0.01	0.01	0.02	Nil	0.01		0.10	0.10	No change
October	3.0	11.2	Nil	0.06	Nil	0.03	0.03	,,	0.02		0.28	0.19	
November	1.0	8.6	,,	0.08	0.01	0.06	0.06	0.03	0.05		0.58	0.48	
December	0.2	3.9	,,	0.08	0.08	0.09	0.06	Nil	0.06		0.84	0.56	
January	0.2	1.7	,,	0.08	0.11	0.09	0.05	,,	0.04		0.84	0.37	
February	0.1	2.2	,,	Nil	0.03	0.02	0.04	,,	0.01		0.21	0.10	
March	0.2	1.9	,,	0.02	0.01	0.01	0.06	,,	0.01		0.09	0.09	
April	0.5	4.5	,,	0.03	0.02	0.03	0.06	,,	0.02		0.29	0.19	
May	0.8	3.4	,,	0.04	0.02	0.03	0.02	,,	0.02		0.28	0.19	
Total	**23.2**			**0.53**	**0.35**	**0.45**	**0.51**	**0.04**	**0.30**				

11. Not available

12. (a) **Characteristics of soils in the commanded area**

Sandy to sandy loam 25 percent, silt loam to clay loam 45 percent, clay loam to clay 30 percent

(b) Not available

13. **(a) Crop pattern**

Perennial			*Two seasonal*			*Kharif*			
Percentage of principal crops		*Total area (T. acres)*	*Percentage of principal crops*		*Total area (T. acres)*	*Percentage of principal crops*			*Total area (T. acres)*
Cane	*Others*		*Cotton*	*Others*		*Paddy*	*Bajri*	*Others*	
(average for 1941-42 to 1950-51)									
—	0.2	Negligible	0.8	15.7	**0.8**	4.5	0.9	2.4	**0 4**
(average for 1951-52 to 1960-61)									
0.6	—	,,	5.4	6.9	**0.4**	3.7	—	8.9	**0.5**

Continued below

Continued from above

Rabi				*Hot weather*		*Total cropped area (T.acres)*
Percentage of principal crops			*Total area (T.acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
Wheat	*Jowar*	*Others*		*Fodder*		
(average for 1941-42 to 1950-51)						
9.4	63.1	—	**3.4**	3.0	**0.1**	**4.7**
(average for 1951-52 to 1960-61)						
6.3	64.2	1.1	**2.5**	2.9	**0.1**	**3.5**
(as now proposed)						
No change						

(b) Are there any rules for regulating crop pattern ? No

14. **Delta at canal head**

Overall Delta (feet)

(average for 1948-49 to 1950-51)

2.2

(average for 1951-52 to 1955-56)

2.0

(as now proposed)

No change

15. **(a) Number of tanks in operation in the irrigated area and the area irrigated therefrom**

Nil

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

183 wells, irrigating about 2 acres each, area included in the C.C.A.

16. **Quantum of river supplies available in relation to withdrawals, as of March, 1951**

The entire flow available is utilised except in years of very good supplies. During the last 12 years there was escapage only in two years.

17. to 19. Not applicable

GENERAL

20. **Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns**

Nil

21. **Financial return of the scheme** 3.17 percent in 1955-56

22. **Main features and purpose of the scheme**

Irrigation of 4,000 acres

MHASWAD TANK

17A-K.5-M.10

1. **Name of State** Maharashtra (formerly in Bombay)
2. **Scope of the scheme or system**

   Tank irrigation scheme; C.C.A. 30,000 acres
3. **Source of supply**

   Man river at Mhaswad/Bhima/**Krishna**

   Upstream utilisation:

   existing: two tanks with storage capacity of 0.33 T.M.C.

   proposed : one tank under construction on a tributary of Man, storage 0.26 T.M.C.
4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	1.46 T.M.C.*
Dead storage	0.58 ,,
Carry-over	0.30 ,,
Annual reservoir losses	0.60 ,,
Filling period	From 15th June to end of September
Depletion period	From 15th June to 14th June
Catchment Area	480 square miles
Area submerged	6.25 square miles
Full reservoir level	R.L. 1,940
Minimum pond level	R.L. 1,916

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam :	earthen, 9,000 feet long, 80 feet high
Spillway :	3,000 feet long, capacity 136,100 cusecs
Outlets :	five vents, 2 feet x 2 feet 6 inches each

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

**Originally the live storage was 2.48 T.M.C. ; it was 1.54 T.M.C. in 1942*

6. Description of the canal

(as during 1941-42 to 1950-51)

Mhaswad Canal (contour upto 10 miles and then ridge); left bank; 25 miles long; perennial; unlined; authorised capacity **146 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1884-85

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

(as during 1941-42 to 1950-51)

District Sholapur

G.C.A.	32,000 acres
C.C.A.	30,000 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation*					
Maximum	*Minimum*	*Average*	*Perennial*	*Two seasonal*	*Kharif*	*Rabi*	*Hot weather*	*Total*
.... *thousand acres*			.... *percentage*					
(as during 1941-42 to 1950-51)								
11.6	2.0	6.9	0.2	1.1	6.6	13.7	1.3	**22.9**
(as during 1951-52 to 1960-61)								
14.6	5.8	10.1	0.1	2.1	13.3	17.4	0.7	**33.6**

(as now proposed)

No change

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1942-43 to 1950-51			As during 1951-52 to 1960-61			As proposed	As during 1942-43 to 1950-51	As during 1951-52 to 1960-61	As proposed
	Normal	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......inches........			.........thousand million cubic feet (T.M.C.)...									
June	3.0	9.5	0.1	Nil	0.05	0.07	0.11	0.12	0.14	No change	0.19	0.37	No change
July	2.2	10.8	0.1	0.17	Nil	0.10	0.14	0.06	0.16		0.28	0.41	
August	2.2	16.8	Nil	0.21	,,	0.10	0.15	0.19	0.13		0.28	0.33	
September	5.1	17.3	0.6	0.26	0.03	0.07	0.32	0.12	0.09		0.19	0.24	
October	3.0	9.4	0.1	0.07	Nil	0.09	0.34	0.05	0.06		0.23	0.15	
November	1.3	10.7	Nil	0.13	0.19	0.28	0.33	0.01	0.22		0.74	0.58	
December	0.3	6.3	,,	0.18	0.03	0.27	0.35	0.18	0.31		0.69	0.79	
January	0.2	1.6	,,	0.38	Nil	0.23	0.21	0.07	0.19		0.59	0.49	
February	0.1	1.7	,,	0.16	,,	0.09	0.16	Nil	0.04		0.25	0.11	
March	0.2	1.8	,,	0.12	,,	0.07	0.01	,,	0.02		0.18	0.05	
April	0.5	2.2	,,	0.36	,,	0.14	0.10	,,	0.14		0.37	0.37	
May	1.1	5.6	,,	0.32	,,	0.13	0.07	,,	0.13		0.33	0.33	
Total	**19.2**			**2.36**	**0.30**	**1.64**	**2.29**	**0.80**	**1.63**				

11.—12. Not available

13. Crop pattern *(See Annexure I)*

Perennial		*Two seasonal*			*Kharif*					
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*		*Total area (T. acres)*	*Percentage of principal crops*				*Total area (T. acres)*	*Continued below*
Sugarcane		*Cotton*	*Others*		*Paddy*	*Bajri*	*Groundnut*	*Others*		
(average for 1941-42 to 1950-51)										
1.0	**0.1**	0.2	4.5	**0.3**	1.8	12.7	11.9	2.5	**2.0**	
(average for 1951-52 to 1960-61)										
0.3	**0.1**	3.5	2.8	**0.6**	0.3	6.0	28.2	5.2	**4.0**	

Continued from above	*Rabi*				*Hot weather*		*Total cropped area (T.acres)*
	Percentage of principal crops			*Total area (T.acres)*	*Percentage of principal crops*	*Total area (T.acres)*	
	Jowar	*Wheat*	*Others*		*Fodder*		
	(average for 1941-42 to 1950-51)						
	54.8	5.0	—	**4.1**	5.6	**0.4**	**6.9**
	(average for 1951-52 to 1960-61)						
	45.0	2.6	4.0	**5.2**	2.1	**0.2**	**10.1**

(as now proposed)

No change

(b) **Are there any rules for regulating crop pattern** ?

No such regulations

14. Delta at canal head

Kharif :	15th June to 14th October
Rabi :	15th October to 14th May
Hot weather :	15th May to 14th June

Delta (feet)			
Kharif	*Rabi*	*Hot weather*	*Overall*
(average for 1941-42 to 1950-51)			
3.3	4.5	19.5	5.5
(average for 1951-52 to 1960-61)			
2.3	3.0	4.1	3.7

(as now proposed)

No change

15. (a) **Number of tanks in operation in the irrigated area and the area irrigated therefrom**

Nil

(b) Not available

16. **Quantum of river supplies available in relation to withdrawals, as of March, 1951**

In normal year, available river supply is fully utilised. Since 1943 there has been escapage during 9 years (mainly during September to November) varying from 0.57 T.M.C. to 2.12 T.M.C.

17. to 19. Not applicable

GENERAL

20. **Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns**

Nil

21. **Financial return of the scheme**

Average annual loss about Rs. 50,000/-

22. **Main features and purpose of the schem**

Irrigation of about 10,000 acres

MHASWAD

STATEMENT SHOWING THE AREA

Year	Area irrigated by crops (acres)							
	Perennial			Two seasonal			Kharif	
	Sugarcane	Others	Total	Cotton	Others	Total	Paddy	Bajri
1	2	3	4	5	6	7	8	9
1941-42	—	—	—	170	30	**200**	30	100
42-43	20	—	**20**	—	40	**40**	—	660
43-44	20	—	**20**	—	260	**260**	20	440
44-45	130	—	**130**	—	440	**440**	40	920
45-46	80	—	**80**	—	230	**230**	—	420
4 -47	20	—	**20**	—	40	**40**	200	300
47-48	70	—	**70**	—	820	**820**	150	2,150
48-49	110	—	**110**	—	430	**430**	120	2,000
49-50	110	—	**110**	—	460	**460**	100	1,270
50-51	110	—	**110**	—	360	**360**	540	510
1951-52	150	—	**150**	120	440	**560**	80	1,110
52-53	60	—	**60**	50	340	**390**	60	1,170
53-54	—	—	—	10	230	**240**	70	740
54-55	—	—	—	170	300	**470**	50	950
55-56	—	—	—	—	210	**210**	—	—
56-57	—	10	**10**	940	340	**1,280**	—	—
57-58	—	—	—	680	580	**1,260**	20	560
58-59	20	—	**20**	800	310	**1,110**	—	50
59-60	—	—	—	50	110	**160**	—	790
60-61	60	—	**60**	650	—	**650**	40	660
Average for 10 years1941-42 to 1950-51	**67**	—	**67**	**17**	**311**	**328**	**120**	**877**
Average for 10 years 1951-52 to 1960-61	**29**	**1**	**30**	**347**	**286**	**633**	**32**	**603**

TANK
IRRIGATED BY CROPS

Annexure 1

Area irrigated by crops (acres)								
Kharif			*Rabi*				*Hot weather*	*Grand Tota*
Groundnut	*Others*	*Total*	*Wheat*	*Jowar*	*Others*	*Total*	*Fodder and Others*	
10	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*
320	50	**500**	20	1,280	—	**1,300**	20	**2,020**
420	40	**1,120**	100	800	—	**980**	80	**2,240**
370	340	**1,170**	810	6,470	—	**7,280**	70	**8,800**
480	90	**1,530**	640	5,340	—	**5,980**	580	**8,660**
450	230	**1,100**	90	2,270	—	**2,360**	580	**4,350**
50	220	**770**	200	4,790	—	**4,990**	—	**5,820**
1,360	200	**3,860**	410	5,490	—	**5,900**	910	**11,560**
1,780	90	**3,990**	290	2,940	—	**3,230**	340	**8,100**
1,340	170	**2,880**	370	4,130	—	**4,500**	600	**8,550**
1,640	270	**2,960**	520	4,100	—	**4,620**	680	**8,730**
1,670	100	**2,960**	520	4,230	—	**4,750**	590	**9,010**
1,340	70	**2,640**	170	3,180	—	**3,350**	230	**6,670**
440	140	**1,390**	190	4,530	—	**4,720**	—	**6,350**
2,620	70	**3,690**	20	4,430	—	**4,450**	280	**8,890**
—	100	**100**	240	5,240	—	**5,480**	—	**5,790**
4,240	2,020	**6,260**	360	3,590	970	**4,920**	240	**12,710**
5,600	1,360	**7,540**	340	4,260	980	**5,580**	220	**14,600**
4,890	950	**5,890**	270	4,890	850	**6,010**	60	**13,090**
1,620	180	**2,590**	290	5,740	1,270	**7,300**	310	**10,360**
6,000	260	**6,960**	210	5,350	—	**5,560**	170	**13,400**
821	**170**	**1,988**	**345**	**3,769**	—	**4,114**	**336**	**6,883**
2,842	**525**	**4,002**	**261**	**4,544**	**407**	**5,212**	**210**	**10,087**

EKRUK TANK

18A-K.5-M.11

1. **Name of State** Maharashtra (formerly in Bombay)
2. **Scope of the scheme or system**
   Irrigation-cum-water supply scheme; flow-cum- storage; C .C.A. 10,000 acres
3. **Source of supply**
   Adhile river at Ekruk/Sina/Bhima/**Krishna**
   Utilisation upstream: nil
4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	2.60 T.M.C.
Dead storage	0.70 ,,
Carry-over	0.40 ,,
Annual reservoir losses	1.20 ,,
Filling period	15th June to 15th October
Depletion period	15th June to 14th June
Catchment area	159 square miles
Area submerged	4,160 acres
Full reservoir level	R.L. 1,522
Minimum pond level	R.L. 1,493

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5 **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam : earthen, 7,000 feet long, 76 feet high

Spillway : 450 feet long on left bank and 300 feet long on right bank, combined capacity 43,760 cusecs

Outlets : one opening, 4 feet x 4 feet for Right Bank Canal
one opening, 2 feet 6 inches x 2 feet for Left Bank Canal
30 inches hume pipe opening for Perennial Canal
36 inches diameter pipe for Sholapur water works

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Right Bank Canal (contour); 18 miles long; non-perennial; unlined; authorised capacity **30 cusecs**

Left Bank Canal (contour); 4 miles long; non-perennial; unlined; authorised capacity **18 cusecs**

Perennial Canal (contour); taking off on the left; 26 miles long; unlined; authorised capacity **40 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1871

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

(as during 1941-42 to 1950-51)

District Sholapur

G.C.A.	17,200 acres
C.C.A.	10,000 „

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation*					
Maximum	*Minimum*	*Average*	*Perennial*	*Two seasonal*	*Kharif*	*Rabi*	*Hot weather*	*Total*
...........*thousand acres*...........			...........*percentage*...........					
(as during 1941-42 to 1950-51)								
6.6	—	3.5	0.8	1.5	4.7	11.2	2.4	20.6
(as during 1951-52 to 1960-61)								
6.2	4.0	5.2	1.4	1.8	5.7	19.1	2.6	30.6

(as now proposed)

No change

10. Normal rainfall and river supply diverted (three canals taken together)

Month	Rainfall			River supply diverted*							Capacity factor		
				As during 1944-45 to 1950-51			As during 1951-52 to 1960-61			As proposed	As during 1944-45 to 1950-51	As during 1951-52 to 1960-61	As proposed
	Normal	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......*inches*.........			*thousand million cubic feet (T.M.C.)*									
June	4.2	13.5	0.1	0.08	Nil	0.04	0.07	0.04	0.04	No change	0.18	0.18	No change
July	4.5	12.6	0.1	0.06	0.01	0.02	0.03	0.02	0.04		0.08	0.17	
August	4.0	13.4	Nil	0.07	0.01	0.03	0.03	0.02	0.04		0.13	0.17	
September	7.0	17.6	0.4	0.01	0.01	0.02	0.04	Nil	0.02		0.09	0.09	
October	2.9	10.4	Nil	0.01	0.01	0.02	0.04	,,	0.02		0.08	0.03	
November	1.1	6.8	,,	0.12	Nil	0.05	0.14	0.02	0.07		0.21	0.31	
December	0.3	4.1	,,	0.12	,,	0.07	0.12	0.06	0.10		0.30	0.42	
January	0.2	2.3	,,	0.09	,,	0.06	0.11	0.08	0.09		0.25	0.38	
February	0.1	1.9	,,	0.06	,,	0.03	0.06	0.05	0.05		0.14	0.23	
March	0.2	3.4	,,	0.04	,,	0.02	0.06	0.04	0.04		0.08	0.17	
April	0.5	3.7	,,	0.10	,,	0.05	0.09	0.06	0.07		0.21	0.31	
May	0.9	5.6	,,	0.08	,,	0.04	0.07	0.07	0.05		0.17	0.25	
Total	25.9			**0.84**	**0.04**	**0.45**	**0.86**	**0.46**	**0.64**				

**The figures do not include the supply delivered to Sholapur Municipality*

11.—12. Not available

13. (a) **Crop pattern**

Perennial.			*Two seasonal*			*Kharif*				
Percentage of principal crops		*Total area (T. acres)*	*Percentage of principal crops*		*Total area (T. acres)*	*Percentage of principal crops*				*Total area (T.acres)*
Sugarcane	*Others*		*Cotton*	*Others*		*Vegetable*	*Paddy*	*Groundnut*	*Others*	
(average for 1941-42 to 1950-51)										
3.2	0.6	0.2	1.4	5.7	0.2	8.9	8.0	4.3	1.4	0.8
(average for 1951-52 to 1960-61)										
3.8	0.6	0.2	2.7	3.1	0.3	4.4	3.4	4.8	6.3	1.0

continued below

continued from above

Rabi				*Hot weather*		*Total cropped area (T. acres)*
Percentage of principal crops			*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
Wheat	*Jowar*	*Others*		*Fodder*		
(average for 1941-42 to 1950-51)						
8.6	44.8	1.4	1.9	11.7	0.4	3.5
(average for 1951-52 to 1960-61)						
6.0	52.4	4.2	3.3	8.3	0.4	5.2

(as now proposed)

No change

(b) **Are there any rules for regulating crop pattern ?** No

14. **Delta at canal head**

Overall Delta (feet)
(average for 1941-42 to 1950-51)
3.0
(average for 1951-52 to 1960-61)
2.8
(as now proposed)
No change

15. (a) **Number of tanks in operation in the irrigated area and the area irrigated therefrom**

Nil

(b) **Number of wells in operation in the irrigated area and the area irrigated therefrom**

8 wells under Left Bank Canal, 9 wells under Right Bank Canal and 57 wells under Perennial canal. Irrigation from these wells is not included in the area shown under irrigation on the tank

16. **Quantum of river supplies available in relation to withdrawals, as of March, 1951**

Out of 17 years there was no escapage for 6 years, in the other 11 years there was an average escapage of 4 T. M. C. with a maximum of 7 T. M. C.

17. to 19. Not applicable

GENERAL

20. **Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns**

Water supply to Sholapur Town and supply to industries in Sholapur Town in 1955-56 was 0.32 T. M. C. and revenue realised Rs. 3,35,300/-

21. **Financial return of the scheme**

15.88 percent in 1955-56

22. **Main features and purpose of the scheme**

A water supply scheme supplying water to the industrial and textile manufacturing town of Sholapur, and irrigation of about 5,000 acres

GOKAK CANAL SYSTEM

19A-K.3-My.1

1. **Name of State** Mysore (formerly in Bombay)
2. **Scope of the scheme or system**

   Irrigation scheme ; based on flow; Ayacut 17,100 acres; supplies are released below the weir for generation of power at the Gokak Mills
3. **Source of supply**

   The Ghataprabha at Dhupdal/**Krishna**

   Utilisation upstream :

   existing : by lift from the river

   proposed : nil
4. **Description of the reservoir or tank**

   (as during 1941-42 to 1950-51)

Live storage	0.87 T. M. C.
Dead storage	Nil
Carry-over	,,
Filling period	June to October
Depletion period	June to May
Catchment area	1,080 square miles
Area submerged	2,980 acres
Full reservoir level	R. L. 2,012
Minimum pond leavel	R. L. 1,986

5. **Description of the headworks**

   (as during 1941-42 to 1950-51)

   Weir : 3,008 feet long

   Under sluices : 10 numbers, each 4.5 feet x 7 feet

   Head regulator : 5 vents, each 4.5 feet x 7 feet
6. **Description of the canal**

   (as during 1941-42 to 1950-51)

   Gokak Canal (contour) ; left bank ; 2¾ miles long ; two-seasonal ; unlined ; authorised capacity **105 cusecs**

   Note :—The Gokak Canal was merged in 1951 with Ghataprabha Left Bank Canal **(11B-K.3-My.1)**
7. **The year from which the scheme is in operation** 1889

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

(as during 1941-42 to 1950-51)

District	Belgaum
G. C. A.	18,700 acres
C. C. A.	17,700 „
Ayacut	17,100 „

9. Area irrigated annually and intensity of irrigation (*See Annexure 1*)

Area irrigated annually			*Intensity of irrigation on Ayacut*			
Maximum	*Minimum*	*Average*	*Perennial*	*Kharif*	*Rabi*	*Total*
……*thousand acres*……			……………*percentage*………………			
			(as during 1941-42 to 1950-51)			
17.1	10.9	14.4	2.9	47.1	34.0	**84.0**

10. Normal rainfall and river supply diverted

Month	*Rainfall*			*River supply diverted* *As during 1941-42 to 1950-51*			*Average capacity factor*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	
	…………*inches*…………			*thousand million cubic feet (T. M. C.)*			
June	3.0	4.2	1.5	0.19	0.08	0.11	0.41
July	5.0	7.0	1.6	0.32	0.10	0.18	0.64
August	4.0	8.6	0.6	0.36	0.16	0.20	0.71
September	4.0	10.7	0.1	0.19	0.11	0.17	0.63
October	4.5	14.3	0.4	0.17	0.16	0.14	0.50
November	1.5	7.6	Nil	0.23	0.12	0.18	0.67
December	0.3	0.4	„	0.29	0.09	0.20	0.71
January	0.1	1.1	„	0.23	Nil	0.13	0.46
February	0.1	0.4	„	0.19	„	0.04	0.16
March	0.4	1.3	„	Nil	„	—	—
April	1.5	3.2	0.1	„	„	—	—
May	2.0	8.8	Nil	„	„	—	—
Total	**26.4**			**2.17**	**0.82**	**1.35**	

11. Not available

12. (a) Characteristics of soils in the commanded area

Black and red soils, the latter sandy loam.

(b) Not available

13. **(a) Crop pattern** (*See Annexure I*)

Perennial			*Kharif*						*continued below*
Percentage of principal crops		*Total area (T. acres)*	*Percentage of principal crops*					*Total area (T. acres)*	
Sugarcane	*Others*		*Paddy*	*Maize*	*Jowar*	*Cotton*	*Others*		
(average for 1941-42 to 1950-51)									
3.1	0.4	**0.5**	4.6	16.5	7.1	2.0	25.8	**8.1**	

continued from above	*Rabi*						*Total cropped area (T. acres)*
	Percentage of principal crops					*Total area (T.acres)*	
	Maize	*Jowar*	*Pulses*	*Wheat*	*Others*		
	(average for 1941-42 to 1950-51)						
	11.1	13.5	6.2	0.4	9.3	**5.8**	**14.4**

(b) **Are there any rules for regulating crop pattern ?**

Legislation under consideration

14. **Delta at canal head**

Overall Delta (feet)
(average for 1941-42 to 1950-51)
2.2

15. (a) **Number of tanks in operation in the irrigated area and the area irrigated therefrom**

Nil

(b) Not available

16. **Quantum of river supplies available in relation to withdrawals, as of March, 1951**

During monsoon, irrigation requirements were met from the flow of the river and during post-monsoon period partly from flow and partly from storage. There was considerable spill from June to December.

Supplies below Dhupdal weir are used in part to generate power at Gokak falls.

POWER ASPECTS

17. **River supplies diverted and operation head**

	(as during 1941-42 to 1950-51)	*(as during 1951-52 to 1960-61)*
Operation head :	192 feet	192 feet
Supply passing : through turbines :		
(average) :	68 cusecs	68 cusecs
Annual :	**2.15 T. M. C.**	**2.15 T. M. C.**

18. **Disposal of tail-race waters**

Escaped into the river

19. **Quantum of river supplies available in relation to withdrawals, as of March, 1951**

See item 16 above

GENERAL

20. **Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns**

Nil

21. Not available

22. **Main features and purpose of the scheme**

Irrigation of about 15,000 acres

GOKAK CANAL SYSTEM

STATEMENT SHOWING AREA IRRIGATED BY CROPS

ANNEXURE I

GOKAK CANAL

STATEMENT SHOWING AREA

Year	*Area irrigated by crops (acres)*								
	Perennial			*Kharif*					
	Sugarcane	*Others*	*Total*	*Paddy*	*Maize*	*Jowar*	*Cotton*	*Others*	*Total*
1941-42	300	100	**400**	100	1,800	600	700	2,900	**6,100**
42-43	300	100	**400**	100	2,000	1,100	100	3,500	**6,800**
43-44	300	100	**400**	200	2,800	700	100	3,900	**7,700**
44-45	400	—	**400**	500	2,600	700	100	3,600	**7,500**
45-46	400	100	**500**	800	2,200	700	100	3,600	**7,400**
46-47	800	—	**800**	700	2,200	1,300	100	4,800	**9,100**
47-48	1,200	100	**1,300**	900	2,400	1,000	100	3,900	**8,300**
48-49	500	100	**600**	900	2,800	1,300	1,100	3,800	**9,900**
49-50	100	—	**100**	1,000	2,700	1,400	100	3,600	**8,800**
50-51	100	—	**100**	1,400	2,200	1,400	400	3,500	**8,900**
	Merged with Ghataprabha Left Bank Canal in 1951								
Average for the 10 years from 1941-42 to 1950-51	440	60	**500**	660	2,370	1,020	290	3,710	**8,050**

SYSTEM

IRRIGATED BY CROPS

Annexure I

Area irrigated by crops (acres)						
Rabi						*Grand Total*
Maize	*Jowar*	*Pulses*	*Wheat*	*Others*	*Total*	
1,100	1,600	500	100	1,100	**4,400**	**10,900**
1,400	2,000	500	100	1,000	**5,000**	**12,200**
1,700	2,200	600	100	1,300	**5,900**	**14,000**
1,800	1,600	800	—	1,500	**5,700**	**13,600**
1,700	2,800	1,000	100	900	**6,500**	**14,400**
1,500	1,800	900	100	1,700	**6,000**	**15,900**
1,800	1,900	1,400	—	1,200	**6,300**	**15,900**
1,800	1,800	1,300	100	1,600	**6,600**	**17,100**
1,700	1,900	900	—	1,500	**6,000**	**14,900**
1,500	1,800	1,000	—	1,500	**5,800**	**14,800**
1,600	1,940	890	60	1,330	**5,820**	**14,370**

BHADRA ANICUT CHANNELS

20A-K.8-My.2

1. **Name of State** Mysore
2. **Scope of the scheme or system**

   Irrigation scheme; based on flow ; Ayacut 12,300 acres
3. **Source of supply**

   Bhadra at Gondi/Tungabhadra/**Krishna**

   Utilisation upstream:

   existing : Bhadra Reservoir Project, 10 miles upstream
4. Not applicable
5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Broad-crested weir, 820 feet long, 12 feet high

River sluices:	right bank,	3 vents, 3¾ feet x 5 feet each
	left bank,	3 vents, 3¾ feet x 5 feet each
Head regulator:	right bank,	5 vents, 3¾ feet x 6 feet each
	left bank,	5 vents, 3¾ feet x 6 feet each

(of which 4 vents are not in operation at present)

Catchment area 1,083 square miles

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. **Description of the canals**

(as during 1941-42 to 1950-51)

Right Bank Canal (contour); 46 miles long; perennial; unlined; authorised capacity **265 cusecs**

(as during 1951-52 to 1960-61)

Right Bank Canal: No change

Left Bank Canal (contour); 9.5 miles long; perennial; unlined ; authorised capacity **20 cusecs**

(as now proposed)

No change

7. **The year from which the scheme is in operation**

   Right Bank Canal: 1926-27

   Left Bank Canal: 1953-54

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

District Shimoga

Item	*Right Bank Canal*	*Left Bank Canal*	*Total*
	...........thousand acres....................		
	(as during 1941-42 to 1950-51)		
G.C.A.	13.0	—	**13.0**
C.C.A.	11.8	—	**11.8**
Ayacut	11.8	—	**11.8**
	(as during 1951-52 to 1960-61)		
G.C.A.	13.0	0.8	**13.8**
C.C.A.	11.8	0.6	**12.4**
Ayacut	11.8	0.5	**12.3**
	(as now proposed)		
	No change		

9. Area irrigated annually and intensity of irrigation (*See Annexture I*)

Area irrigated annually			*Intensity of irrigation on Ayacut*			
Maximum	*Minimum*	*Average*	*Perennial*	*Kharif*	*Rabi*	*Total*
...........thousand acres...........			*............ percentage.........................*			
(as during 1947-48 to 1950-51)						
9.1	8.0	8.6	2.0	64.2	6.4	**72.6**
(as during 1951-52 to 1959-60)						
12.5	8.8	10.2	2.3	72.8	8.1	**83.2**
(as now proposed)						
No change						

10. Normal rainfall and river supply diverted

Month	*Rainfall*			*River supply diverted*					*Capacity factor*
				As during 1947-48 to 1948-49			*As during 1951-52 to 1954-55*	*As proposed*	*As during 1947-48 to 1948-49*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*			
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
	............*inches*......... ..			...*thousand million cubic feet* (*T.M.C.*)......					
June	6.6	7.9	1.9	0.15	0.19	0.17			0.25
July	11.5	17.1	5.3	0.45	0.49	0.47			0.66
August	6.6	11.9	2.4	0.43	0.62	0.52			0.73
September	3.9	6.3	1.4	0.39	0.33	0.36			0.52
October	4.6	11.3	4.1	0.48	0.26	0.37		No change	0.52
November	1.8	5.6	0.2	0.33	0.36	0.34			0.50
December	0 3	1.7	0.3	0.30	0.37	0.34	Not available		0.48
January	0.1	0.1	0.1	0.24	Nil	0.12			0.17
February	0.1	0.1	0.1	0.16	0.11	0.14			0.22
March	0.3	1.2	0.8	0.11	0.04	0.08			0.11
April	1.9	5.5	0.1	0.09	0.12	0.10			0.15
May	2.9	8.6	3.2	Nil	0.07	0.04			0.06
Total	**40.6**			**3.13**	**2.96**	**3.05**	**1.40***		

**assumed on the basis of district-wise duty furnished in Table VI*

11. Not available

12. (a) Characteristics of soils in the commanded area

Sandy loamy soil

(b) Not available

13. (a) Crop pattern (*See Annexure I*)

Perennial		*Kharif*		*Rabi*		*Total cropped area (T. acres)*
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
Sugarcane		*Paddy*		*Paddy*		
		(*average for 1947-48 to 1950-51*)				
2.8	**0.2**	88.3	**7.6**	8.9	**0.8**	**8.6**
		(*average for 1951-52 to 1959-60*)				
2.7	**0.3**	87.5	**8.9**	9.8	**1.0**	**10.2**
		(*as now proposed*)				
		No change				

(b) Are there any rules for regulating crop pattern ?

Legislation under consideration

14. Delta at canal head

	Overall Delta (feet)
(average for 1947-48 to 1948-49)	8.2
(average for 1951-52 to 1959-60)	Not available
(as now proposed)	Existing conditions will continue

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

21 tanks, irrigating about 1,778 acres ; area included in the Ayacut

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply data not available. The average annual inflow at Lakkavali is about 109 T.M.C., out of which the utilisation at Lakkavali (including losses in the Bhadra reservoir) is 61.66 T.M.C.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Nil

21. Financial return of the scheme

4.5 percent

22. Main features and purpose of the scheme

Irrigation of about 10,000 acres-mainly paddy

Annexure 1

BHADRA ANICUT CHANNELS

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*			*Grand Total*
	Perennial	*Kharif (Paddy)*	*Rabi (Paddy)*	
1947-48	317	7,948	794	**9,059**
48-49	176	7,071	710	**7,957**
49-50	226	7,302	731	**8,259**
50-51	247	7,964	796	**9,007**
51-52	404	8,054	805	**9,263**
52-53	351	9,405	942	**10,698**
53-54	213	8,829	883	**9,925**
54-55	216	8,051	732	**8,999**
55-56	199	7,922	660	**8,781**
56-57	333	8,538	771	**9,642**
57-58	396	9,377	1,405	**11,178**
58-59	258	9,655	1,166	**11,079**
59-60	152	10,765	1,614	**12,531**
60-61	Not available	Not available	Not available	
Average for the 4 years from 1947-48 to 1950-51	**241**	**7,571**	**758**	**8,570**
Average for the 9 years from 1951-52 to 1959-60	**280**	**8,955**	**998**	**10,233**

ANJANAPUR RESERVOIR

21A-K.8-My.3

1. **Name of State** Mysore
2. **Scope of the scheme or system**
   Irrigation scheme ; flow-cum-storage; Ayacut 17,000 acres
3. **Source of supply**
   Kumadvathi/Tungabhadra/**Krishna**
   Utilisation upstream :

existing :	nil
proposed :	nil

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	0.58 T.M.C.
Dead storage	0.21 ,,
Carry-over	Nil
Annual reservoir losses	0.33 T.M.C.
Filling period	June to October
Depletion period	June to December
Catchment area	210 square miles
Area submerged	1,663 acres
Full reservoir level	R.L. 147
Minimum pond level	R.L. 137

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam :	earthen, 5,200 feet long, 68 feet high
Spillway :	masonry broad crested weir, 811 feet long. capacity 22,000 cusecs
Head regulator :	right bank, 2 vents, 6.5 feet x 6 feet each left bank, 2 pipes, 2.5 feet diameter

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Right Bank Canal (contour) ; 30 miles long; one seasonal; unlined ; authorised capacity **245 cusecs**

Left Bank Canal (contour); 8¾ miles long; one seasonal ; unlined; authorised capacity **60 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1937-38

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

District Shimoga

Item	*Right Bank Canal*	*Left Bank Canal*	*Total*
	...............thousand acres...............		
	(as during 1941-42 to 1950-51)		
C.C.A.	16.0	4.0	**20.0**
C.C.A.	14.0	3.0	**17.0**
Ayacut	14.0	3.0	**17.0**
	(as during 1951-52 to 1960-61)		
	No change		
	(as now proposed)		
	No change		

9. Area irrigated annually and intensity of irrigation *(See Annexure I)*

Area irrigated annually			*Intensity of irrigation on Ayacut*
Maximum	*Minimum*	*Average*	*Kharif*
......thousand acres...........			*.........percentage.............................*
		(as during 1941-42 to 1950-51)	
15.2	11.6	12.7	74.7
		(as during 1951-52 to 1960-61)	
15.7	15.3	15.5	91.2
		(as now proposed)	
—	—	17.0	100.0

10. Normal rainfall and river supply diverted (both canals)

Month	*Rainfall*			*River supply diverted*			*Capacity factor*
	Normal	*Maximum*	*Minimum*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*	*As proposed*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
	............*inches*..............			......*thousand million cubic feet (T.M.C.)*...			
June	5.0	10.5	2.1	Not available	Not available	0.09	0.11
July	9.5	22.1	2.4	,,	,,	0.39	0.48
August	5.2	12.7	1.9	,,	,,	0.55	0.67
September	3.0	6.8	0.1	,,	,,	0.57	0.72
October	5.1	14.9	3.6	,,	,,	0.45	0.55
November	1.5	6.2	0.4	,,	,,	0.36	0.46
December	0.5	4.3	0.2	,,	,,	0.10	0.12
January	0.1	0.5	0.3	,,	,,	Nil	—
February	0.1	0.5	0.5	,,	,,	,,	—
March	0.3	1.1	0.1	,,	,,	,,	—
April	1.4	6.5	1.6	,,	,,	,,	—
May	2.6	13.9	0.9	,,	,,	,,	—
Total	**34.3**			**1.80***	**2.20***	**2.51**	

**assumed on the basis of districtwise duty furnished in Table VI*

11. Not available

12. (a) **Characteristics of soils in the commanded area** Red and black soils

(b) Not available

13. (a) **Crop pattern** (*See Annexure I*)

Kharif (Paddy)	
Percentage of principal crops	*Total cropped area (T.acres)*
(average for 1941-42 to 1950-51)	
100.0	12.7
(average for 1951-52 to 1960-61)	
100.0	15.5
(as now proposed)	
100.0	17.0

(b) Are there any rules for regulating crop pattern ?

Legislation under consideration

14. Delta at canal head

Kharif (Paddy) : June to December

Delta *(feet)* *Kharif (Paddy)*
(average for 1941-42 to 1950-51) Not available
(average for 1951-52 to 1960-61) Not available
(as now proposed) 3.4

Note :—As the contribution from the existing tanks in the Ayacut can not be assessed, delta has been computed with respect to water let out from the reservoir

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

59 tanks ; Ayacut under these tanks is included in the Ayacut of Anjanapur Reservoir

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

During the 11 years 1940-41 to 1950-51, there was on an average, an overflow of nearly 4.4 T.M.C. during the months June to September.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Nil

21. Financial return of the scheme

3.26 percent

22. Main features and purpose of the scheme

Irrigation of about 16,000 acres of paddy

ANJANAPUR RESERVOIR

Annexure I

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)* *Kharif* Paddy
1941-42	11,571
42-43	11,571
43-44	11,571
44-45	11,571
45-46	11,571
46-47	12,150
47-48	12,800
48-49	13,900
49-50	14,980
50-51	15,200
1951-52	15,286
52-53	15,346
53-54	15,400
54-55	15,418
55-56	15,486
56-57	15,500
57-58	15,580
58-59	15,600
59-60	15,680
60-61	15,700
Average for the 10 years from 1941-42 to 1950-51	**12,689**
Average for the 10 years from 1951-52 to 1960-61	**15,500**

DHARMA CANAL SYSTEM

22A-K.8-My.4

1. **Name of State** Mysore (formerly in Bombay)
2. **Scope of the scheme or system**
   Irrigation scheme ; based on flow supplemented by 71 tanks ; Ayacut 10,000 acres
3. **Source of supply**
   Dharma at Shringeri/Tungabhadra/**Krishna**
   Utilisation upstream : nil

4. Not applicable
5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Weir : 130 feet long
Head regulator: 7 vents, 3 feet x 4.5 feet each
Catchment area: 51 square miles

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. **Description of the canal**

(as during 1941-42 to 1950-51)

Dharma Canal (contour) ; right bank ; 17 miles long ; one seasonal ; unlined ; authorised capacity **291 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

See item 23 below

7. **The year from which the scheme is in operation**
   Not known ; a very old canal system

IRRIGATION ASPECTS

8. **Gross commanded area, culturable commanded area and Ayacut, district-wise**

(as during 1941-42 to 1950-51)

District Dharwar

G.C.A.	13,600 acres
C.C.A.	12,900 ,,
Ayacut	10,000 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

See item 23 below

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation on Ayacut*
Maximum	*Minimum*	*Average*	*Kharif*
...........*thousand acres*...........			*percentage*
(*as during 1941-42 to 1950-51*)			
8.6	8.6	8.6	86.0
(*as during 1951-52 to 1960-61*)			
11.9	8.6	9.8	98.0
(*as now proposed*)			
See item 23 below			

10. Normal rainfall and river supply diverted

Month	*Rainfall*			*River supply diverted*		
	Normal	*Maximum*	*Minimum*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*
1	*2*	*3*	*4*	*5*	*6*	*7*
	...........*inches*..................			*thousand million cubic feet (T.M.C.)*		
June	5.8	7.9	2.4	Not available	Not available	See
July	10.9	12.6	1.5	„	„	item
August	6.5	8.0	3.6	„	„	23
September	4.6	6.7	1.2	„	„	below
October	4.6	14.8	0.5	„	„	
November	1.7	4.6	Nil	„	„	
December	0.4	1.7	„	„	„	
January	0.1	0.6	„	„	„	
February	0.1	0.6	„	„	„	
March	0.2	3.2	„	„	„	
April	1.4	3.6	0.3	„	„	
May	2.4	6.6	0.2	„	„	
Total	**38.7**			**1.20***	**1.40***	

**assumed on the basis of districtwise duty furnished in Table VI*

11. Not available

12. (a) **Characteristics of soils in the commanded area**

Soil is laterite, red loamy to medium black

(b) Not available

13. (a) **Crop pattern**

Abi	
Percentage of principal crops	*Total cropped area (T. acres)*
(average for 1941-42 to 1950-51)	
100.0	8.6
(average for 1951-52 to 1960-61)	
100.0	9.8
(as now proposed)	
See item 23 below	

(b) **Are there any rules for regulating crop pattern?**

Legislation under consideration

14. **Delta at canal head**

As the contribution during the monsoon period from the existing tanks in the Ayacut is not available, information about delta cannot be given

15. (a) **Number of tanks in operation in the irrigated area and the area irrigated therefrom**

71 tanks, merged in the Ayacut

(b) **Number of wells in operation in the irrigated area and the area irrigated therefrom**

Nil

16. **Quantum of river supplies available in relation to withdrawals, as on March, 1951**

River supply data not available. Supplies are stated to be insufficient after the rainy season, therefore a reservoir is being constructed 8 miles upstream.

17. to 19. Not applicable

GENERAL

20. **Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns**

Nil

21. Not available

22. **Main features and purpose of the scheme**

Irrigation of about 10,000 acres of paddy

23. **Special features of the scheme**

This canal will be merged into Dharma Reservoir Project **15C.1-K.8-My.7**

VANIVILAS SAGAR

23A-K.9-My.5

1. **Name of State** Mysore

2. **Scope of the scheme or system**

Irrigation scheme ; flow-cum storage ; Ayacut 26,000 acres

3. **Source of supply**

Vedavathi at Marikanive/Tungabhadra/**Krishna**

Utilisation upstream :

existing : minor tanks and anicuts

proposed : nil

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	25.32 T.M.C.
Dead storage	4.71 ,,
Carry-over	2.70 ,, (average for 20 years, with a maximum of 10.30 T.M.C.)
Annual reservoir losses	2.30 T.M.C.
Filling period	June to December
Depletion period	June to May
Catchment area	2,075 square miles
Area submerged	21,645 acres
Full reservoir level	R.L. 130 (assumed datum)
Minimum pond level	R.L. 69 (assumed datum)

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

(i) Dam : masonry 1,338 feet long, 142 feet high

Spillway : masonry, 468 feet long, capacity 23,000 cusecs

Irrigation sluices : left side, 2 vents, each 5.5 feet x 12.8 feet

(ii) Anicut near Katrekanahalli (5 miles below the dam), 322 feet long, 17 feet high

Irrigation sluices :

left side : 5 vents, each 5 feet x 6 feet

right side : 5 vents, each 5 feet x 6 feet

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

(i) High Level Canal (contour); off-taking from the left flank of the dam; 5 miles long; perennial; unlined; authorised capacity **25 cusecs**

(ii) Right Bank Canal (contour); off-taking from the right bank of the anicut; 29 miles long; perennial; unlined; authorised capacity **312 cusecs**

(iii) Left Bank Canal (contour); off-taking from the left bank of the anicut; 30 miles long; perennial; unlined; authorised capacity **312 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1906

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

District Chitradurga

Item	*High Level Left Bank Canal*	*Right Bank Canal*	*Left Bank Canal*	*Total*
	......*thousand acres*......			
	(as during 1941-42 to 1950-51)			
G.C.A.	2.0	14.0	14.0	**30.0**
C.C.A.	1.0	12.5	12.5	**26.0**
Ayacut	1.0	12.5	12.5	**26.0**
	(as during 1951-52 to 1960-61)			
	No change			
	(as now proposed)			
	No change			

9. Area irrigated annually and intensity of irrigation *(See Annexure I)*

Area irrigated annually			*Intensity of irrigation on Ayacut*			
Maximum	*Minimum*	*Average*	*Perennial*	*Kharif*	*Rabi*	*Total*
......*thousand acres*......			......*percentage*......			
(as during 1941-42 to 1950-51)						
13.3	11.4	12.0	25.8	10 2	10.2	**46.2**
(as during 1951-52 to 1960-61)						
24.8	16.2	20.9	38.8	20.8	20.8	**80.4**
(as now proposed)						
—	—	36.0	61.5	38.5	38.5	**138.5**

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51			As during 1951-52 to 1960-61			As proposed	As during 1941-42 to 1950-51	As during 1951-52 to 1960-61	As proposed
	Normal	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........inches......			......thousand million cubic feet (T.M.C.)...									
June	2.1	2.5	0.2	0.19	0.12	0.23	0.32	0.34	0.41	0.90	0.14	0.24	0.54
July	2.4	2.6	0.5	0.36	0.20	0.32	0.56	0.26	0.44	1.00	0.18	0.25	0.58
August	2.0	6.8	0.5	0.55	0.17	0.37	0.84	0.36	0.54	1.10	0.21	0.31	0.63
September	4.3	11.9	0.4	0.51	0.20	0.32	0.75	0.32	0.52	1.10	0.19	0.31	0.65
October	4.0	9.1	2.8	0.44	0.11	0.29	0.98	0.13	0.45	1.00	0.17	0.26	0.58
November	2.3	10.7	0.6	0.31	0.03	0.35	0.97	0.29	0.53	0.90	0.21	0.32	0.54
December	0.3	0.8	0.1	0.11	0.24	0.22	0.55	0.18	0.39	0.90	0.13	0.22	0.52
January	0.1	0.7	0.7	0.49	0.29	0.31	0.66	0.28	0.43	1.00	0.18	0.25	0.58
February	0.2	1.1	0.7	0.55	0.30	0.33	0.68	0.32	0.47	1.00	0.21	0.30	0.64
March	0.2	4.0	0.2	0.64	0.28	0.35	0.91	0.42	0.58	1·10	0.20	0.33	0.63
April	0.9	3.6	0.3	0.66	0.35	0.36	0.88	0.31	0.56	1.10	0.21	0.33	0.65
May	3.3	6.0	0.6	0.47	0.23	0.31	0.66	0.50	0.54	0.90	0.18	0.31	0.52
Total	**22.1**			**5.28**	**2.52**	**3.77**	**8.76**	**3.71**	**5.86**	**12.00**			

11. Not available

12. (a) **Characteristics of soils in the commanded area**

Mostly red gravelly soil with sandy patches near the river

(b) Not available

13. (a) **Crop pattern** (*See Annexure 1*)

Perennial			Kharif		Rabi		Total cropped area T. acres)
Percentage of principal crops		Total area (T.acres)	Percentage of principal crops	Total area (T.acres)	Percentage of principal crops	Total area (T. acres)	
Sugarcane	Gardens coconut		Paddy		Paddy		
			(average for 1946-47 to 1950-51)				
11.7	44.2	**6.7**	22.1	**2.6**	22.1	**2.7**	**12.0**
			(average for 1951-52 to 1960-61)				
7.6	40.6	**10.1**	25.9	**5.4**	25 9	**5.4**	**20.9**
			(as now proposed)				
16.7	27.8	**16.0**	27.8	**10.0**	27.8	**10.0**	**36.0**

(b) **Are there any rules for regulating crop pattern ?**

Legislation under consideration

14. Delta at canal head

Overall Delta
(feet)
(average for 1946-47 to 1950-51)
7.2
(average for 1951-52 to 1960-61)
6.4
(as now proposed)
7.7

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Amblagere tank and Maskal tank situated at the tail end of Vanivilas Sagar. Seepage water from the Vanivilas Sagar Ayacut is collected in Maskal tank.

The area under these tanks is included in the Ayacut of Vanivilas Sagar.

(b) Not available

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

The entire river flow is stored in the reservoir and there has been no spill

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise),if any, required for these aspects ; financial returns

Nil

21. Financial return of the scheme 1.15 percent

22. Main features and purpose of the scheme

Irrigation of about 20,000 acres of paddy, sugarcane and gardens

Annexure 1

VANIVILAS SAGAR

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*					
	Perennial			*Kharif*	*Rabi*	*Grand Total*
	Sugarcane	*Garden*	*Total*	*Paddy*	*Paddy*	
1946-47	1,600	5,019	**6,619**	2,402	2,402	**11,423**
47-48	1,600	5,021	**6,621**	2,400	2,400	**11,421**
48-49	1,300	5,484	**6,784**	2,312	2,312	**11,408**
49-50	980	6,201	**7,181**	2,649	2,649	**12,479**
50-51	1,654	4,708	**6,362**	3,488	3,488	**13,338**
1951-52	1,101	7,321	**8,422**	3,900	3,900	**16,2 2**
52-53	1,322	6,678	**8,000**	4,500	4,500	**17,000**
53-54	1,322	7,712	**9,034**	5,600	5,600	**20,234**
54-55	1,342	7,516	**8,858**	6,172	6,172	**21,202**
55-56	1,342	7,218	**8,560**	6,073	6,073	**20,706**
56-57	1,865	6,652	**8,517**	6,303	6,303	**21,123**
57-58	1,542	10,637	**12,179**	5,137	5,137	**22,453**
58-59	1,615	11,796	**13,411**	4,562	4,562	**22,535**
59-60	2,000	10,836	**12,836**	5,136	5,136	**23,103**
60-61	2,950	8,250	**11,200**	6,800	6,800	**24,800**
Average for the 5 years from 1946 47 to 1950-51	**1,427**	**5,286**	**6,713**	**2,650**	**2,650**	**12,013**
Average for the 10 years from 1951-52 to 1960-61	**1,639**	**8,463**	**10,102**	**5,418**	**5,418**	**20,933**

सत्यमेव जयते

TABLE I

Abstract of major and medium schemes

Index number	Name of scheme or project	Power installed (kW.)	Average C.C.A. or Ayacut		Average annual irrigation		Average annual diversion	
			1941-42 to 1950-51	1951-52 to 1960-61	1941-42 to 1950-51	1951-52 to 1960-61	1941-42 to 1950-51	1951-52 to 1960-61
1	2	3	4	5	6	7	8	9
			......................acres			....	...T.M.C....	
	ANDHRA PRADESH		*Ayacut*					
1A-K.7-A.1	Krishna Delta System	—	1,032,200	1,146,800	1,119,900	1,218,600	186.8	209.7
2A-K.8-A.2	Kurnool Cuddepah Canal	—	103,000	103,000	97,800	118,000	33.0	37.2
3A-K.7-A.3	Dindi Project	—	10,000	10 000	7,300	14,700	2.3	3.0
4A-K.11-A.4	Palair Project	—	19,700	16,700	11,000	16,100	3.0	3.3
5A-K.12-A.5	Pakhal Lake	—	9,500	9,500	5,200	9,500	0.9	1.8
6A-K.12-A.6	Muniyeru Project	—	11,300	13,600	10,900	14,000	2.6	3.3
7A-K.12-A.7	Wyra Project	—	17,400	17,400	10,900	11,300	2.5	2.8
	Total	—	**1,203,100**	**1,317,000**	**1,263,000**	**1,402,200**	**231.1**	**261.1**
	MAHARASHTRA		*C.C.A.*					
8A-K.1-M.1	Krishna Canal	—	25,500	33,400	5,800	6,200	1.4	1.4
9A-K.1-M.2	Nehr Tank	—	10,700	10,700	4,000	5,100	0.1	0.3
10A-K.5-M.3	Tata Hydel Power Supply Scheme	70,000	—	—	—	—	7.1	7.2
11A-K.5-M.4	Andhra Valley Power Supply Scheme	72,000	—	—	—	—	9.1	9.4
12A-K.5-M.5	Tata Power Scheme (Mulshi Dam)	132,000	—	—	—	—	21.8	26.0
13A-K.5-M.6	Mutha Canals (including Matoba and Khamgaon tanks)	—	50,000	50,000	18,100	11,500	4.5	4.9
14A-K.5-M.7	Visapur Tank	—	15,000	15,000	5,200	3,400	1.3	0.5
15A-K.5-M.8	Nira Canals	4,000	597,500	597,500	155,100	153,100	32.0	32.3
16A-K.5-M.9	Ashti Tank	—	16,800	16,800	4,700	3,500	0.5	0.3
17A-K.5-M.10	Mhaswad Tank	—	30,000	30,000	6,900	10,100	1.6	1.6
18A-K.5-M.11	Ekruk Tank	—	10,000	10,000	3,500	5,200	0.5	0.6
	Total	**278,000**	**755,500**	**763,400**	**203,300**	**198,100**	**79.9**	**84 5**
	MYSORE		*Ayacut*					
19A-K.3-My.1	Gokak Canal System*	—	17,100	—*	14,400	—*	1.4	—*
20A-K.8-My.2	Bhadra Anicut Channels	—	11,800	12,300	8,600	10,200	3.1	1.4
21A-K.8-My.3	Anjanapur Reservoir	—	17,000	17,000	12,700	15,500	1.8	2.2
22A-K.8-My.4	Dharma Canal System	—	10,000	10,000	8,600	9,800	1.2	1.4
23A-K.9-My.5	Vanivilas Sagar	—	26,000	26,000	12,000	20,900	3.8	5.9
	Total	—	**81,900**	**65,300**	**56,300**	**56,400**	**11.3**	**10.9**
	Grand Total	**278,000**	**2,040,500**	**2,145,700**	**1,522,600**	**1,656,700**	**322.3**	**356.5**

*****The Ayacut under this project was merged in the Ghataprabha Project in 1951* (**11 A-K.3-My.1**)

TABLE II

Particulars of minor schemes

Serial number	Name of scheme or project	Name of sub-basin	Capacity tanks (M. Cft.)*	Capacity diversion schemes (cusecs)	C.C.A. or Ayacut (acres)	Area irrigated (acres)		
						Average of 1941-42 to 1950-51	Average of 1951-52 to 1960-61	During 59-60 o 60-61
1	2	3	4	5	6	7	8	9
	ANDHRA PRADESH				*Ayacut*			
	Anantapur district							
1.	Yaradakara Large Tank	K.9 Vedavathi	N.A.	—	840	511	532	512
2.	Mulakaledu Tank	,,	99	—	605	N.A.	488	521
3.	Malayaneru Tank	,,	108	—	623	,,	566	572
4.	Amarapuram Tank	,,	186	—	931	,,	697	587
5.	Sivaram Tank	,,	196	—	747	,,	626	608
6.	Moribhagalu Tank	,,	221	—	696	,,	780	742
7.	Ingalur Tank	,,	54	—	518	,,	398	319
8.	Agali Tank	,,	102	—	884	,,	668	675
9.	Talakera Rangasamudram	,,	N.A.	—	614	,,	698	525
11.	Kanekal Tank	,,	,,	—	2,227	,,	3,277	3,605
	Total				**8,685**		**8,730**	**8,666**
	Guntur district							
1.	Sirigiripadu Channel	K. 7 Lower Krishna	—	N.A.	1,055	N.A.	N.A.	N.A.
	Hyderabad district							
1.	Nallatalab Revinal (284)	K. 10 Musi	N.A.	—	1,087	,,	499	295
2.	Ibrahim talab (360)	,,	817	—	1,209	—	1,005	1,139
3.	Ranizayal tank (542)	,,	N.A.	—	811	—	629	618
4.	Pedda Cheroo (813)	K. 7 Lower Krishna	,,	—	507	N.A.	N.A.	N.A.
5.	Mulka Cheroo (855)	,,	,,	—	546	211	227	205
6.	Mysamma Cheroo (1106)	K. 10 Musi	85	—	604	N.A.	N.A.	N.A.
7.	Phalwarun talab (1123)	,,	N.A.	—	762	212	286	429
8.	Osmansagar	,,	5,541	—	—	City water supply		
9.	Himayatsagar	,,	1.762	—	—	City water supply		
10.	Nalanarayanarao	,,	N.A.	—	874	344	539	660
11.	Nalla Cheruvu	,,	,,	—	803	1,033	1,040	1,041
	Total				**7,203**			**4.387**

Table II *(continued)*

Particulars of minor schemes

Serial number	*Name of scheme or project*	*Name of sub-basin*	*Capacity tanks (M. Cft.)*	*Capacity diversion schemes (cusecs)*	*C.C.A. or Ayacut (acres)*	*Area irrigated (acres)*		
						Average of 1941-42 to 1950-51	*Average of 1951-52 to 1960-61*	*During 59-60 or 60-61*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
	Khammam district				*Ayacut*			
1.	Shajjidwa tank (2690)	K.12 Muneru	187	—	657	608	556	612
2.	Large Tank	„	111	—	670	N.A.	N.A.	N.A.
3.	Large Tank	„	112	—	1,700	„	„	„
4.	Large Tank	„	N.A.	—	3,000	„	„	„
5.	Mulkanoor Anicut	„	—	N.A.	600	„	„	„
	Total				**6,627**			
	Krishna district				*Ayacut*			
1.	Parithala Pedda Tank	K. 7 Lower Krishna	N.A.	—	1,044	N.A.	1,188	1,292
2.	Ura Tank	K.12 Muneru	N.A.	—	500	„	N.A.	N.A.
3.	Ura Tank	„	„	—	535	„	„	„
4.	Sanganapadu Channel	„	—	N.A.	1,025	„	929	1,101
5.	Kachawaram Supply Channel	K.11 Paleru	—	„	2,500	„	2,076	2,540
6.	Kondapaleru Tank of Kalagara	K.7 Lower Krishna	33	—	600	„	685	691
7.	Pedda Tank of Chanpanda	„	19	—	700	„	497	500
8.	Ura Tank of Rolupadi	„	37	—	663	„	639	607
9.	Gajula Tank of Putrala	„	33	—	500	„	672	670
10.	Pedda Cheruvu of Vavila	„	21	—	500	„	250	232
11.	Samudayakam Tank of Chintalapadu	„	8	—	503	„	241	260
12.	Kesava Raju Tank of Peddagudem	„	N.A.	—	500	„	193	219
13.	Guntupally Pumping Scheme	„	—	N.A.	5,000	—	3,296	4,419
	Somavaram Tank	K. 12 Muneru	Ayacut merged in Muneru system					
	Total				**14,570**			
	Kurnool district							
	Chinnatambalem-Karem Saheb Tank	K. 8 Tungabhadra	219	Ayacut merged in Tungabhadra Project				
1.	Kothapalli Kanikalla Cheruvu	K. 7 Lower Krishna	21	—	593	N.A.	N.A.	N.A.
2.	Chinnataker Tank	„	74	—	550	54	106	186
3.	Venkatapuram Tank	„	237	1,460	1,700	340	793	520

**extends 1,070 acres in Muneru system*

Table II (*continued*)

Particulars of minor schemes

Serial number	*Name of scheme or project*	*Name of sub-basin*	*Capacity tanks (M.Cft)*	*Capacity diversion schemes (cusecs)*	*C.C.A. or Ayacut (acres)*	*Area irrigated (acres)*		
						Average of 1941-42 to 1950-51	*Average of 1951-52 to 1960-61*	*During 59-60 o 60-61*
1	2	3	4	5	6	7	8	9
4.	Kurukonda Macha-Veerappa Tank	K. 7 Lower Krishna	53	—	*Ayacut* 900	N.A.	N.A.	N.A.
5.	Ramapuram Pedda and Chinna Mal amma Tank	,,	16	—	584	,,	573	520
6.	Ramasamudram Tank	,,	62	—	500	,,	N.A.	N.A.
7.	Siddapuram Tank	,,	645	—	1,000	1,231	2,261	2,861
8.	Rampur Channel		—	N.A.	883	N.A.	1,216	1,294
	Kotha Cheruvu	Ayacut merged in Tungabhadra Project						
9.	Ravula Cheruvu	K. 8 Tungabhadra	N.A.	—	700	N.A.	N.A.	N.A.
	Total				**7,415**			
	Mahbubnagar district							
1.	Gandharva Cunta (163)	K. 7 Lower Krishna	N.A.	—	1,322	N.A.	923	933
2.	Pedda Cheruv (378)	,,	76	—	550	233	257	95
3.	Pedda Cheruv (899)	,,	36	—	798	172	417	435
4.	Pedda talab (1001)	,,	N.A.	—	503	N.A.	421	389
5.	Pedda Cheroo (2279)	,,	,,	—	735	14	113	309
6.	Bheema samudram (2510)	,,	,,	—	532	N.A.	410	410
7.	Rasod tank	,,	,,	—	533	225	540	540
8.	Chandrasagar	,,	180	—	3,000	363	911	800
9.	Shanker Samudram Tank	,,	N.A.	—	1,766	1,587	1,564	1,648
10.	Rangasamudram Tank	,,	,,	—	1,256	880	1,113	1,142
11.	Annakatve	,,	68	—	532	411	429	472
12.	Mahabupalasamudram	,,	N.A.	—	704	568	571	584
13.	Thoor Tank	,,	209	—	660	N.A.	543	396
14.	Veeranna Cheruvu	,,	57	—	670	,,	415	343
15.	Pedda Cheruvu and its feeder	,,	N.A.	—	503	233	257	96
16.	Veerasamudram	,,	89	—	588	437	414	496
	Total				**14,652**	**5,123**	**9,298**	**9,038**
	Nalgonda district							
1.	Naddirala	K.10 Musi	N.A.	—	599	511	606	616
2.	Undaya Samudram Daran Cunta (708)	K. 7 Lower Krishna	475	—	1,239	1.089	1,006	932
3.	Mailaram Cheroo (775)	,,	N.A.	—	996	663	855	664

Table II (*continued*)

Particulars of minor schemes

Serial number	*Name of scheme or project*	*Name of sub-basin*	*Capacity tanks (M. Cft.)*	*Capacity diversion schemes (cusecs)*	*C.C.A. or Ayacut (acres)*	*Area irrigated (acres)* *Average of 1941-42 to 1950-51*	*Average of 1951-52 to 1960-61*	*During 59-60 or 60-61*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
					Ayacut			
4.	Shali Gowraram Project (1127)	K.10 Musi	N.A.	—	2,410	2,343	2,310	2,387
5.	Pedda Cheroo (1438)	,,	157	—	563	N.A.	516	563
6.	Large Tank (1572)	K. 7 Lower Krishna	71	—	619	,,	366*	(366
7.	Pedda Cherco (1583)	,,	274	—	546	,,	589*	(589
8.	Pedda Cheroo	,,	140	—	500	453	448	488
9.	Vemldevi Cheroo (1976)	,,	182	—	987	780	625	676
10.	Pedda Cheroo (1978)	,,	76	—	542	498	514	509
11.	Pendlipa Kala Project	,,	541	—	5,000	1,883	2,318	1,206
12.	Asifnahar Project	K.10 Musi	N.A.	—	1,634	1,014	1,210	1,211
13.	Ramasamudram Tank	,,	238	—	837	558	706	775
14.	Brahmadeo Cheruvu		N.A.	—	691	566	591	594
15.	Utkur Marepalli Project	,,	299	—	4,176	1,047	1,137	994
16.	Alagadaparayanapalem Project	,,	N.A.	—	1,242	1,524	1,701	1,826
17.	Vemulukonda Project	,,	,,	—	700	N.A.	N.A.	(700)
18.	Holigonda Project	,,	,,	—	1,200	,,	462	630
19.	Pedda Cheruvu	K. 7 Lower Krishna	39	—	516	348	375	404
	Total				**24,997**		**16,335**	**16,130**
	Warangal district							
1.	Pedda Cheru (251)	K.12 Muneru	N.A.	—	636	N.A.	N.A.	N.A.
2.	Pedda Cheru (302)	,,	,,	—	523	,,	,,	,,
3.	Large Tank (389)	,,	255	—	2,562	1,071	1,579	1,598
	Jalbanda cheru (495) Pasnoor Channel (497) Sangam Channel (573) Sangam Channel (587) Thungabandam Channel (592)	Ayacut merged in Pakhal Lake Project						
4.	Pedda Cheru (736)	K.12 Muneru	91	—	950	N.A.	N.A.	N.A.
5.	Pedda Cheru (778)	,,	N.A.	—	700	,,	,,	,,
6.	Pedda Cheru (882)	,,	,,	—	534	,,	,,	,,
7.	Pedda Cheru (904)	,,	,,	—	522	,,	,,	,,

Table II (*continued*)

Particulars of minor schemes

Serial number	*Name of scheme or project*	*Name of sub-basin*	*Capacity tanks (M. Cft.)*	*Capacity diversion schemes (cusecs)*	*C.C.A. or Ayacut (acres)*	*Area irrigated (acres)* Average of 1941-42 to 1950-51	Average of 1951-52 to 1960-61	During 59-60 or 60-61
1	2	3	4	5	6	7	8	9
					Ayacut			
8.	Pedda Reddy Cheru (995)	K.12 Muneru	N.A.	—	500	N.A.	N.A.	N.A.
9.	Oora Cheru (1267)	K.10 Musi	,,	—	1,482	,,	,,	,,
10.	Pangidi Cheru (1488)	,,	193	—	545	,,	,,	,,
11.	Oora Cheru (1678)	K.12 Muneru	N.A.	—	701	87	126	97
12.	Pedda Cheru (1789)	,,	,,	—	605	213	357	400
13.	Large Tank (1865)	,,	192	—	621	1,051	1,057	1,138
14.	Konareddi Cheru (2003)	,,	406	—	1,720	1,232	1,578	1,591
15.	Oora Cheru (2101)	,,	61	—	763	464	636	729
16.	Rajaram Tank	,,	107	—	500	196	235	284
17.	Mularam Large Tank	,,	N.A.	—	2,512	185	232	248
18.	Sambuni Cheruvu	,,	72	—	600	248	293	230
19.	Anicut and Channel	,,	—	N.A.	604	N.A.	N.A.	N.A.
20.	Large Tank	K.10 Musi	N.A.	—	566	,,	,,	,,
21.	Project Gurtur	K.12 Muneru	,,	—	1,242	,,	,,	,,
22.	Rajayya Cheruvu	,,	35	—	732	747	760	699
	Total				**20,114**			
	Grand Total for Andhra Pradesh				**105,318**			
	MAHARASHTRA				*C.C.A.*			
	Ahmednagar district							
1.	Mandavgaon Tank	K. 5 Upper Bhima	45	6	535	(99)	99	133
2.	Limjiwadi Tank	,,	60	7	600	509	268	241
3.	Bhatodi Tank	,,	40	—	13,657	696	552	665
	Total				**14,792**	**1,304**	**919**	**1,039**
	Bhir district							
1.	Rooti Tank	K. 5 Upper Bhima	232		6,350	3,375	3,038	3,441
	Poona district							
1.	Tank at Rakh	K. 5 Upper Bhima	34	—	640	110	113	71
2.	Shirsuphal Tank	,,	330	—	2,500	1,078	1,114	1,133
3.	Bhadalwadi Tank	,,	202	—	2,400	1,452	1,526	1,078
	Total				**5,540**	**2,640**	**2,753**	**2,282**

Table II (*continued*)

Particulars of minor schemes

Serial number	*Name of scheme or project*	*Name of sub-basin*	*Capacity tanks (M. Cft.)*	*Capacity diversion schemes (cusecs)*	*C.C.A. or Ayacut (acres)*	*Area irrigated (acres)*		
						Average of 1941-42 to 1950-51	*Average of 1951-52 to 1960-61*	*During 59-60 or 60-61*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
					C.C.A.			
	Sangli district							
1.	Chikhali Canal	K. 1 Upper Krishna	—	12	1,478	385	470	304
	Satara district							
1.	Revadi Canal	K. 1 Upper Krishna	—	18	3,624	435	596	702
2.	Upper Man Works (Pingli Tank)	K. 5 Upper Bhima	103	26	7,623	665	927	952
3.	Wakeshwar Bhandhara	K. 1 Upper Krishna	—	6	600	302	287	323
4.	Mayani Tank	,,	10	20	4,625	1,520	1,442	1,614
	Total				**16,472**	**2,922**	**3,252**	**3,591**
	Sholapur district							
1.	Panewadi Tank	K. 5 Upper Bhima	190	—	1,735	633	609	941
2.	Sangawi Tank	,,	112	—	1,813	151	339	427
3.	Wadshiva Tank	,,	203	—	2,763	1,049	816	1,079
4.	Koregaon Tank	,,	84	—	2,394	585	552	264
5.	Pathari Tank	,,	407	—	4,586	1,188	1,144	1,201
6.	Hotgi Tank	,,	181	—	4,800	145	463	379
7.	Gherdi Tank	,,	102	—	1,900	584	531	786
	Total				**19,991**	**4,335**	**4,454**	**5,077**
	Grand Total for Maharashtra				**64,623**	**14,961**	**14,886**	**15,734**
	MYSORE				*Ayacut*			
	Belgaum district							
1.	Jakerihonda Talav	K. 3 Ghataprabha	N.A.	—	750	N.A.	N.A.	745
2.	Killadakeri Tank	,,	,,	—	560	,,	,,	549
3.	Fort Moat	,,	,,	—	600	,,	,,	567
4.	Savankeri in Sy. No. 21	,,	,,	—	1,000	,,	,,	930
5.	Bandhara at Mamadapur	K. 4 Malaprabha	,,	40	3,400	,,	,,	200
6.	Tank in Sy. No. 343	,,	,,	—	604	,,	,,	604
	Total				**6,914**			**3,595**
	Bellary district							
1.	Dannayakanakera Tank	K. 8 Tungabhadra	288	—	508	N.A.	N.A.	508
2.	Kamalapuram Tank	,,	392	—	620	,,	,,	814
3.	Darogi Tank	,,	788	—	1,770	,,	1,130	1,767
4.	Kottur Tank	,,	N.A.	—	574	,,	N.A.	574

Table II (*continued*)

Particulars of minor schemes

Serial number	*Name of scheme or project*	*Name of sub-basin*	*Capacity tanks (M.Cft.)*	*Capacity diversion schemes (cusecs)*	*C.C.A. or Ayacut (acres)*	*Area irrigated (acres)*		
						Average of 1941-42 to 1950-51	*Average of 1951-52 to 1960-61*	*During 59-60 or 60-61*
1	2	3	4	5	6	7	8	9
					Ayacut			
5.	Raya Channel	K. 8 Tungabhadra	—	N.A.	5,204	N.A.	5,198	4,200
6.	Basavanna Channel	,,	—	,,	2,200	,,	1,755	1,215
7.	Bella Channel	,,	—	,,	1,330	,,	686	885
8.	Kalaghatta Channel	,,	—	,,	505	,,	518	500
9.	Turtha Channel	,,	—	,,	2,230	,,	1,902	1,850
10.	Kampli Channel	,,	—	,,	1,401	,,	950	720
11.	Belagonda Channel	,,	—	,,	499	,,	230	290
12.	Ramasagar Channel	,,	—	,,	1,650	,,	1,361	1,255
13.	Dasamur Channel	,,	—	,,	1,100	,,	909*	902
14.	Siraguppa Channel	,,	—	,,	2,360	,,	1,841	1,837
15.	Moka Channel	K. 9 Vedavathi	N.A.	,,	582	,,	N.A.	241
	Total				**22,543**			**17,558**
	Bijapur district							
1.	Bhandara at Indi	K. 6 Lower Bhima	—	N.A.	500	N.A.	N.A.	170
2.	Tank at Muchakandi	K. 3 Ghataprabha	N.A.	—	5,417	,,	,,	20**
3.	Lift irrigation scheme at Korti	K. 2 Middle Krishna	—	N.A.	1,400	,,	,,	500
4.	Lift irrigation scheme at Sonna	,,	—	,,	1,500	,,	,,	500
	Total				**8,817**			**1,190**
	Chickmagalur district							
1.	Madag Tank (438)	K. 9 Vedavathi	358	—	5,000	N.A.	N.A.	4,610
2.	Iyyanakera Tank (427)	,,	316	—	4,000	,,	,,	3,424
3.	Kukkasamudra Tank (561)	,,	318	—	1,018	,,	,,	200
4.	Yellambalase Urumundinakere (1089)	,,	58	—	624	,,	,,	624
5.	Vishnusamudra Tank (269)	,,	860	—	529	,,	,,	529
6.	Hiriyangala Borakane Tank (729)	,,	18	—	599	,,	,,	599
7.	Birur Devanakere (791)	,,	51	—	1,024	,,	,,	1,024
8.	Belavadi Doddakere (1320)	,,	363	—	1,103	,,	,,	1,103

**Average for 1954-55 to 1959-60*

***Tank heavily silted up. Source is not giving sufficient reliable supply.*

Table II (*continued*)

Particulars of minor schemes

Serial number	*Name of scheme or project*	*Name of sub-basin*	*Capacity tanks (M.Cft.)*	*Capacity diversion schemes cusecs)*	*C.C.A. or Ayacut (acres)*	*Area irrigated (acres)*		
						Average of 1941-42 to 1950-51	*Average of 1951-52 to 1960-61*	*During 59-60 or 60-61*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
					Ayacut			
9.	Dukkambudi Tank (153)	K. 9 Vedavathi	323	—	576	N.A.	N.A.	576
10.	Halasur Karikere (940)	K. 8 Tungabhadra	N.A.	—	748	,,	,,	748
	Total				**15,226**			**13,442**
	Chitradurga district							
1.	Parasurampur Doddakere (64)	K. 9 Vedavathi	134	—	512	361	487	482
2.	Doddarikere (5)	,,	138	—	799	601	799	799
3.	Ranikere (467)	,,	543	—	1,250	938	1,250	1,250
4.	Naikanahatty Doddakere (18)	,,	319	—	1,153	864	1,153	1,153
5.	Ramasagara Tank (26)	,,	99	—	587	441	587	587
6.	Dharamapura Amanikere (129)	,,	247	—	910	668	890	890
7.	Hirekerehalli Tank (75)	,,	69	—	708	531	708	708
8.	Siddapur Tank (109)	,,	90	—	823	618	823	823
9.	Bhamasagara Doddakere (54)	K.8 Tungabhadra R.B.	180	—	718	540	718	718
10.	Bhemasamudra Tank (31)	K. 9 Vedavathi	910	—	2,444	1,833	2,444	2,444
11.	Shivaganga Tank (30)	,,	359	—	1,569	1,569	1,569	1,569
12.	Anaji Doddakere (44)	K. 8 Tungabhadra	270	—	751	N.A.	N.A.	751
13.	Kodaganur Tank (37/31)	,,	105	—	545	,,	,,	469
14.	Ballalasamudra Tank (86)	,,	180	—	533	533	270	533
15.	Kathral Tank (33)	K. 9 Vedavathi	210	—	628	N.A.	N.A.	426
16.	Pokurthy Tank	,,	142	—	500	,,	,,	150*
17.	Udavalli Tank	,,	205	—	574	430	574	574
	Total				**15,004**			**14,326**
	Dharwar district							
1.	Irrigation tank at Dambal	K. 4 Malaprabha	134	—	900	N.A.	N.A.	900
	Gulbarga district							
1.	Kolkur Tank	K. 6 Lower Bhima	23	—	612	N.A.	N.A.	Nil**
2.	Sirwal Tank	,,	N.A.	—	500	,,	,,	Nil**
	Total				**1,112**			

**Breached in 1955*

***Breached restoration under progress*

Table II (*continued*)

Particulars of minor schemes

Serial number	*Name of scheme or project*	*Name of sub-basin*	*Capacity tanks (M. Cft.)*	*Capacity diversion schemes (cusecs)*	*C.C.A. or Ayacut (acres)*	*Area irrigated (acres)*		
						Average of 1941-42 to 1950-51	*Average of 1951-52 to 1960-61*	*During 59-60 or 60-61*
1	2	3	4	5	6	7	8	9
	Hassan district				*Ayacut*			
1.	Helebid Doddakere (592)	K. 9 Vedavathi	244	—	750	750	550	550
	Raichur District							
1.	Durgakeri Ramdurga, Deodurga Taluk	K. 8 Tungabhadra	N.A.	—	514	299	217	300
2.	Arnahalli Tank at Boyal Merchid, Manvi Taluk	,,	,,	—	645	645	645	645
3.	Sunkeswar Tank at Boyal Merchid, Manvi Taluk	,,	,,	—	572	552	572	572
4.	Kinhal Tank, Kinhal Village, Koppal Taluk	,,	,,	—	641	—	—	—*
5.	Large Tank Ganjihally Raichur Taluk	,,	,,	—	591	451	477	401
6.	Bichal Channel, Raichur Taluk	,,	,,	N.A.	660	N.A.	660	660
7.	Koregal Channel	,,	—	,,	1,534**	,,	N.A.	1,476
8.	Hulgi Channel	,,	—	,,	655	,,	,,	655
9.	Shivapur Channel	,,	—	,,	997	,,	,,	982
10.	Sannapur Channel	,,	—	,,	2,200	,,	,,	1,829
11.	Gangavathi Upper & Lower Channels	,,	—	,,	3,812	,,	,,	3,580
	Total				**12,821**			**11,100**
	Shimoga district							
1.	Sulekere Tank (Shantisagar Reg. No. 356/82)	K. 8 Tungabhadra	2,646	—	3,949	N.A.	N.A.	4,440
2.	Sowlanga Tank (50)	,,	237	—	1,350	,,	864	1,570
3.	Dombara Byranahalli Chandalkere (328)	,,	N.A.	—	1,917	,,	N.A.	1,917
	Salur anicut				Merged with Ambligola			
4.	Mathur Doddakere (366)	,,	52	—	500	,,	,,	500
5.	Issur Haggere (168)	,,	76	—	978	,,	,,	978

**Breached*

***Due to the submergence of the Anicut and a portion of the channel coming under the Tungabhadra Project in 1953 the settled Ayacut is reduced from 2,500 acres to 1,534 acres*

Table II (*concluded*)

Particulars of minor schemes

Serial number	Name of scheme or project	Name of sub-basin	Capacity tanks (M. Cft.)	Capacity diversion schemes (cusecs)	C.C.A. or Ayacut (acres)	Area irrigated (acres)		
						Average of 1941-42 to 1950-51	Average of 1951-52 to 1960-61	During 59-60 or 60-61
1	2	3	4	5	6	7	8	9
					Ayacut			
6.	Sheelavanthanskoppa (341)	K. 8 Tungabhadra	298	—	514	N.A.	N.A.	514
7.	Belagavi Basavanna Devarakera (1827)	,,	18	—	683	,,	,,	683
8.	Mudidoddakoppa Doddakere (778)	,,	23	—	617	,,	,,	617
9.	Talagadda Doddakere (837)	,,	17	—	605	,,	,,	605
10.	Kubbatur Urumundinakere	,,	45	—	686	,,	,,	886
	Total				**11,999**			**12,710**
	Tumkur district							
1.	Hosur Doddakere (Sl. No. 67)	K. 9 Vedavathi	130	—	583	491	500	523
2.	Madlur Doddakere (78)	,,	323	—	736	452	475	514
3.	Kallambella Doddakere (135)	,,	248	—	1,635	1,600	1,630	1,635
4.	Sira Doddakere (145)	,,	155	—	718	598	630	718
5.	Chicksamudra Doddakere (160)	,,	260	—	1,047	856	900	1,047
6.	Kurihalli Tank (166)	,,	143	—	892	315	540	892
7.	Bukkapatna Tank (167)	,,	138	—	549	320	438	526
8.	Singadahalli Tank (4)	,,	135	—	740	450	500	536
9.	Thimmalapura Voddu (117)	,,	105	—	700	650	675	700
	Total				**7,600**			
	Grand Total for Mysore				**103,686**			

TABLE III

Particulars of small tanks and diversions

Serial number	Name of district	Name of sub-basin	Number of tanks/ diversions	C.C.A. or Ayacut (acres)	Area irrigated (acres)		
					Average of 1941-42 to 1950-51	Average of 1951-52 to 1960-61	During 1959-60 or 1960-61
1	2	3	4	5	6	7	8
	ANDHRA PRADESH			*Ayacut*			
1.	Anantapur	K. 9 Vedavathi	75	5,964	N.A.	N.A.	N.A.
2.	Guntur	K. 7 Lower Krishna	133	6,429	,,	,,	,,
3.	Hyderabad	59% in K.10 Musi ; 23% in K.6 Lower Bhima and 18% in K.7 Lower Krishna	1,500	60,011	,,	,,	,,
4.	Khammam	84% in K 12 Muneru and 16% in K.11 Paleru	1,489	94,218	,,	,,	,,
5.	Krishna	76% in K.12 Muneru; 17% in K.7 Lower Krishna and 7% in K.11 Paleru	113	9,640	,,	,,	,,
6.	Kurnool	66% in K.8 Tungabhadra; 25% in K.7 Lower Krishna and 9% in K.9 Vedavathi	154	10,846	,,	,,	,,
7.	Mahbubnagar	89% in K.7 Lower Krishna ; 7% in K.8 Tungabhadra and 2% each in K.6 Upper Bhima and K.10 Musi	3,011	170,811	,,	,,	,,
8.	Medak	71% in K.10 Musi and 29% in K.6 Lower Bhima	123	3,968	,,	,,	,,
9.	Nalgonda	54% in K.7 Lower Krishna ; 35% in K.10 Musi and 11% in K.11 Paleru	2,464	125,762	,,	,,	,,
10.	Warangal	68% in K.12 Muneru ; 19% in K.10 Musi and 13% in K.11 Paleru	3,555	130,930	,,	,,	,,
	Total		**12,617**	**618,579**			

Note:—Figures in columns 4 and 5 exclude small tanks and diversions merged in Major and Medium Projects.

Serial number	Name of district	Name of sub-basin	Number of tanks/ diversions	C.C.A. or Ayacut (acres)	Average of 1941-42 to 1950-51	Average of 1951-52 to 1960-61	During 1959-60 or 1960-61
	MAHARASHTRA			*C.C.A.*			
1.	Ahmednagar	K.5 Upper Bhima	8*	504	254	254	254
2.	Kolhapur	87% in K.1 Upper Krishna and 13% in K.3 Ghataprabha	3	1,075	665	537	665

**Includes two water supply tanks of Ahmednagar*

Table III (*concluded*)

Particulars of small tank and diversions

Serial number	Name of district	Name of sub-basin	No. of tanks/ diversions	C.C.A. or Ayacut (acres)	Area irrigated (acres)		
					Average of 1941-42 to 1950-51	Average of 1951-52 to 1960-61	During 1959-60 or 1960-61
1	2	3	4	5	6	7	8
				C.C.A.			
3.	Poona	K.5 Upper Bhima	3	5,440	2,502	2,502	2,275
4.	Sholapur	90% in K.5 Upper Bhima and 10% in K.6 Lower Bhima	2	1,000	474	348	381
	Total		**16**	**8,019**	**3,895**	**3,641**	**3,575**
	MYSORE			Ayacut			
1.	Belgaum	36% in K.3 Ghataprabha; 34% in K.4 Malaprabha and 30% in K.2 Middle Krishna	735	N.A.	11,105**	N.A.	N.A.
2.	Bellary	68% in K.8 Tungabhadra and 32% in K.9 Vedavathi	193	,,	3,832	,,	,,
3.	Bidar	K.6 Lower Bhima	1	,,	36	,,	,,
4.	Bijapur	43% in K.2 Middle Krishna ; 31% in K.6 Lower Bhima ; 16% in K.3 Ghataprabha and 10% in K.4 Malaprabha	15	,,	1,082	,,	,,
5.	Chikmagalur	69% in K.8 Tungabhadra and 31% in K.9 Vedavathi	1,990	,,	43,869	,,	,,
6.	Chitradurga	73% in K.9 Vedavathi and 27% in K.8 Tungabhadra	330	,,	20,215	,,	,,
7.	Dharwar	57% in K.8 Tungabhadra and 43% in K.4 Malaprabha	3,134	,,	70,360	,,	,,
8.	Gulbarga	80% in K.6 Lower Bhima and 20% in K.2 Middle Krishna	450	,,	4,800	,,	,,
9.	Hassan	K.9 Vedavathi	329	,,	11,727	,,	,,
10.	Kanara	K.8 Tungabhadra	48	,,	4,334	,,	,,
11.	Raichur	78% in K.8 Tungabhadra ; 22% in K.2 Middle Krishna and less than 1% in K.7 Lower Krishna	269	,,	7,181	6,870	6,560
12.	Shimoga	K.8 Tungabhadra	6,054	,,	154,276	N.A.	N.A.
13.	Tumkur	K.9 Vedavathi	471	,,	10,759	,,	,,
	Total		**14,019**		**343,576**		

Note:— The percentages in column 3 denote percentages of that part of the district named in column 2 which lies in the Krishna basin

***Obtained by deducting irrigation of works with Ayacut more than 500 acres, from the overall statistics of irrigation in each district. It has not been possible to get similar information for the 1951-60 decade as the figures for that period include area irrigated by some major schemes and it is not known which of the major schemes are included therein.*

TABLE IV

Abstract of minor schemes and small tanks and diversions

Name of district	Minor schemes as per Table II			Small tanks and diversion as per Table III			Total		Duty acres per M.Cft. as per Table VII	Average annual diversion 1951-52 to 1960-61
	Number	C.C.A. or Ayacut	Average annual irrigation 1951-52 to 1960-61	Number	C.C.A. or Ayacut	Average annual irrigation 1951-52 to 1960-61	C.C.A or Ayacut	Average annual irrigation 1951-52 to 1960-61		
1	2	3	4	5	6	7	8	9	10	11
		......acres.................				.............acres.........	....			...T M.C....
ANDHRA PRADESH		*Ayacut*			*Ayacut*		*Ayacut*			
Anantapur	10	8,685	8,730	75	5,964	(4,030)	14,649	12,810	5	2.56
Guntur	1	1,055	(1,000)	133	6,429	(2,000)	7,434	(3,000)	6	0.50
Hyderabad	11	7,203	(5,000)	1,500	60,011	(33,001)	67,214	38,001	6	6.33
Khammam	5	6,627	(6,000)	1,489	94,218	(74,000)	100,845	80,000	6	13.33
Krishna	13	14,570	(11,000)	113	9,640	(6,950)	24,210	(17,950)	6	2.99
Kurnool	9	7,415	(10,000)	154	10,846	(15,110)	18,261	(25,110)	5	5.02
Mahbubnagar	16	14,652	9,298	3,011	170,811	(129,045)	185,453	(138,343)	6	23 05
Medak	Nil	—	--	123	3,968	3,607	3,968	3,607	6	0 60
Nalgonda	19	24,997	16,335	2,464	125,762	(96,476)	150,759	(112,811)	6	18.80
Warangal	22	20,114	(15,000)	3,555	130,930	(100,000)	151,014	(115,000)	6	19.17
Total	**106**	**105,318**	**82,363**	**12,617**	**618,579**	**464,269**	**723,897**	**516,632**		**92.36**
MAHARASHTRA	·	*C.C.A.*			*C.C.A.*		*C.C.A*			
Ahmednagar	3	14,792	919	8	504	254	15,296	1,173	17.5	0.05
Bhir	1	6,350	3,033	Nil	—	—	6,350	3,038	25	0.12
Kolhapur	Nil	—	—	3	1,075	537	1,075	537	15	0 03
Poona	3	5,540	2,753	3	5,440	2,502	10,980	5,255	15	0 35
Sangli	1	1,478	470	Nil	—	—	1,478	470	16 25	0.03
Satara	4	16,472	3,252	,,	—	—	16,472	3,252	15	0.22
Sholapur	7	19,991	4,454	2	1,000	348	20,991	4,802	16.25	0.30
Total	**19**	**64,623**	**14,886**	**16**	**8,019**	**3,641**	**72,642**	**18,527**		**1.11**

MYSORE		Ayacut			Ayacut		Ayacut			
Belgaum	6	6,914	(3,595)	735	(11,105)	(11,105)	(18,019)	(14,700)	10	1.47
Bellary	15	22,543	(17,559)	193	(3,832)	(3,832)	(26,375)	(21,391)	4	5.35
Bidar	Nil		—	1	(36)	(36)	(3[illegible])	(35)	5	0.01
Bijapur	4	8,817	(1,190)	15	(1,082)	(1,082)	(9,899)	(2,272)	12	0.19
Chickmagalur	10	15.226	(13,442)	1,990	(43,869)	(43,869)	(59,095)	(57,311)	8	7.29
Chitradurga	17	15,004	(14,325)	330	(20,215)	(20,215)	(35,219)	(34,541)	4	8.64
Dharwar	1	900	(900)	3,134	(70,360)	(70,360)	(71,260)	(71,260)	7	10.18
Gulbarga	2	1,112	(1,112)	450	(4,800)	(4,800)	(5,912)	(5,912)	4	1.48
Hassan	1	750	(550)	329	(11,727)	(11,727)	(12,477)	(12,277)	5	2.46
Kanara	Nil	—	—	48	(4,334)	(4,334)	(4,334)	(4,334)	12	0.36
Raichur	11	12,821	(11,100)	269	(7,181)	(7,181)	(20,002)	(18,281)	4	4.57
Shimoga	10	11,999	(12,710)	6,054	(154,276)	(154,276)	(166,275)	(166,986)	7	23.86
Tumkur	9	7,600	(7,091)	471	(10,759)	(10,759)	(18,359)	(17,850)	5	3.57
Total	**86**	**103,686**	**(83,575)**	**14,019**	**(343,576)**	**(343,576)**	**(417,262)**	**(427,151)**		**69.43**
Grand Total	**211**	**273,627**	**180,824**	**26,652**	**970,174**	**811,486**	**1,243,801**	**992,310**		**162.90**

(Figures in brackets are assumed figures)

Note:—GENERAL

1. *It has been presumed that there has been no change in the Ayacut since 1941.*
2. *The average annual diversion for 1941-42 to 1950-51 has been worked out in col. 8 of the statement at the beginning of this Annexure roughly in the same ratio as the average annual diversion for 1951-52 to 1960-61 bears to the average annual irrigation during that decade.*
3. *The assumed figures in col. 9 have been derived from col. 11 of the district-wise statistics in Table V. The latter has been suitably reduced to allow for irrigation from schemes which came into operation after March 1951.*

ANDHRA PRADESH

4. *Assumed figures in col. 4 and col. 7 have been derived from the figures in col. 9 roughly in proportion to the respective Ayacuts. However figures in col. 7 for Anantapur, Mahbubnagar and Nalgonda have been arrived at by deducting from col. 9 the actual figures in col. 4*
5. *Except for Anantapur and Kurnool, the duty (acres per M. Cft.) for all other districts has been assumed to be 6 based on 80% Abi and 20% Tabi.*

MYSORE

6. *The average annual irrigation by minor schemes, during 1951-52 to 1960-61 has been assumed to be the same as the area irrigated during 1959-60 or 1960-61 (vide col. 9 of Table II).*
7. *The average annual irrigation by small tanks and diversion during 1951-52 to 1960-61 has been assumed to be the same as for the period 1941-42 to 1950-51.*
8. *The Ayacut of small tanks and diversions has been assumed to be the same as average annual irrigation.*
9. *The average annual irrigation by minor scheme during 1941-42 to 1950-51 in col. 5 of the statement at the beginning ef this Annexure has been assumed on the basis of the 1959-60 or 1960-61 figures furnished by the State (vide col. 9 of Table II)*

TABLE V

Ayacut of and area irrigated by minor schemes and small tanks and diversions in Andhra Pradesh

District	*Ayacut of schemes*							*Area irrigated*		
	In operation as on 31st March, 1951			*Which came into operation after March 1951*			*Grand Total*	*Average for 1941-42 to 1950-51*	*Average for 1951-52 to 1960-61*	*D*
	Minor schemes	*Small tanks & divertions*	*Total*	*Minor schemes*	*Small tanks & diversions*	*Total*				
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	9	*10*	
					acres					
Anantapur	8,685	5,964	14,649	—	—	—	**14,649**	14,340D	12,810E	12
Guntur	1,055	6,429	7,484	2,016	—	2,016	**9,500**	1,740D	3,136E	2
Hyderabad	7,203	60,111	67,314	—	—	—	**67,314**	29,625A	38,001B	48
Khammam	6,627	94,218	100,845	1,700	8,345	10,045	**110,890**	51,560A	85,130C	110
Krishna	14,570	9,640	24,210	2,732	1,914	4,646	**28,856**	10,230D	20,950E	24
Kurnool	7,415	10,846	18,261	—	1,135	1,135	**19,396**	20,840D	26,110E	24
Mahbubnagar	14,651	170,811	185,462	4,000	—	4,000	**189,462**	60,777A	140,343B	161
Medak	—	3,968	3,968	—	—	—	**3,968**	2,202A	3,607B	4
Nalgonda	24,991	125,762	150,753	11,273	40,207	51,480	**202,233**	96,836A	142,811B	125
Warangal	20,114	130,930	151,044	1,028	7,658	8,686	**159,730**	59,195A	119,278B	138

A—Average for 5 years (1941-42, 1944-45, 1948-49, 1949-50 and 1950-51)
B—Average for 9 years (1951-52 to 1959-60)
C—Average for 7 years (1953-54 to 1959-60)
D—Average for 8 years (1941-42, 1944-45 to 1950-51)
E—Average for 7 years (1951-52 to 1953-54 and 1955-56 1958-59)
**—Figures for 1959-60*
***—Figures for 1958-59*